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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

GEORGE CROOM ROBERTSON,

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—HERBART COMPARED WITH ENGLISH PSYCHOLOGISTS AND WITH BENEKE.[1]

By G. F. STOUT.

THE Faculty-psychology attempts to explain mental phenomena by referring them to certain relatively independent agencies, which are in truth only class-concepts invested with a fictitious reality. Herbart, on the contrary, attempts to base explanation on the conception of mind as a concrete system determining the interconnexion of its parts or aspects. The English Associational psychologists approach the subject in a manner similar in certain respects to the Herbartian. In the following critical comparison of Herbart with the English school, I shall refer mainly to Hume, Thomas Brown, Dugald Stewart and James Mill as typical examples of the distinctively English tendencies, avoiding mention of more modern thinkers. Of these I give most prominence to Brown, because he expressly discusses and formulates many ultimate principles which in other writers are more or less blindly presupposed. Dugald Stewart can hardly be called an Associationist in any special sense; he is important for our purpose mainly because of his theory of

[1] For an exposition of "The Herbartian Psychology," see Nos. 51, 52.

forgotten links in the train of ideas, by which he evaded the necessity of assuming subconscious or unconscious presentations. James Mill does not appear to me to be quite equal to Brown either in ability or achievement; he is specially interesting because of the uncompromising manner in which he applied the doctrine of Association as a key to every psychological problem.

The headings of the following sections as far as the ninth indicate topics which I have selected as affording opportunity for comparison between the Herbartian and the Associational standpoints, with the view of illustrating their fundamental differences. In the ninth and succeeding sections I treat of the German Beneke, who occupies in some respects an intermediate position, agreeing with English writers in their exclusive reliance on introspection as the ultimate source of psychological data, and with Herbart in his endeavour after complete mechanical explanation by means of hypotheses.

§ 1. *Distinction between Mechanical and Presented Connexion.* A presentation may be considered in two points of view, either as having intrinsically a certain qualitative content, or, mechanically, as a condition of change in the total mental system of which it forms a part. It is in the former way, not in the latter, that presentations are usually regarded by all who are not students of psychology. From this point of view, attention is fixed either on resemblance and difference and other relations constitutive of the presented content, or on its relation to objects which it is in some way supposed to represent. In either case there will appear to be an entire absence of anything that can be called agency in the presentations considered. Variations in our idea of a thing do not alter the thing itself, and resemblance and difference are not in any sense modes of interaction. Most persons find it difficult to grasp the conception of a psychological mechanism, because they habitually regard presentations purely as having a presented content. Nevertheless, the mechanical standpoint is a legitimate one, provided that its nature and limitations are duly recognised. Presentations act and react on each other in manifold ways. They exclude each other from distinct consciousness, they reproduce each other, they support each other, and so forth. Now, the clear recognition of this distinction between presented and mechanical relation forms a leading feature in Herbart's psychology. He has embodied it, as we have seen, in his use of the terms presentative

activity and presented content, and he has made it the basis of his general method in dealing with psychological problems. He is perpetually inquiring what connexion of presentative activities corresponds either to a certain connexion of presented contents, or to feelings of pleasure and pain, or to desire.

Now, if we turn to English writers, we meet with traces, but traces only, of this distinction. Nowhere do we find a thorough and consistent application of it such as characterises the Herbartian system. The confusion of the two standpoints which pervades the first three books of Locke's *Essay* seriously impairs the value both of his psychology and of his metaphysics. Hume is comparatively free from similar confusion. His division of relations into natural and philosophical is an explicit recognition of the distinction in question. "The word relation," he says, "is commonly used in two senses considerably different from each other. Either for that quality by which two ideas are connected together in the imagination, and the one naturally introduces the other . . . or for that particular circumstance in which . . . we may think fit to compare them" (*Treatise on Human Nature*, pt. i., sect. 5). The former class he calls natural, the latter philosophical, relations. This distinction answers roughly to that between connexion of presentative activities and connexion of presented contents. But Hume's application of it was very different from Herbart's. It does not seem to have occurred to him that special forms of philosophical relations uniformly imply special forms of natural relation. So far as he attempts to exhibit the dependence of presented connexion on mechanical conditions, he does so only in order to draw an epistemological inference concerning the nature and import of the presented connexion. Thus he explains the apparent necessity of the causal relation by reference to the association of ideas purely for the purpose of showing that the appearance of necessity is illusory. On Herbartian principles, according to which psychological explanation has no bearing on logical validity, this procedure is entirely perverse and unjustifiable. Moreover, in spite of the clear line of demarcation which he draws between them, Hume sometimes substitutes a natural for a philosophical relation, as if it were the same thing. Thus he seems to consider a succession of presentations as identical with a presentation of succession.

We find also in Brown a serious attempt to separate mechanical from presented connexion. He distinguishes carefully between the mere sequence of mental states in

time and what he calls their virtual or seeming coexistence in a single state, in which the relation between them is apprehended. Mere sequence, as opposed to presented connexion, may be conditioned either by the order in which the organs of sense are stimulated, or by the "spontaneous" tendency of the mind to exist in certain states after existing in certain other states. In the latter case it is said to be due to Suggestion. Suggestion is of two kinds —simple and relative. "Of the feelings which arise without any distinct external cause . . . there are many which arise simply in succession in the floating imagery of our thought, without involving any notion of the relation of the preceding objects or feelings to each other. These . . . are what I have termed the phenomena of simple suggestion. But there is an extensive order of our feelings which involve this notion of relation, and which consist, indeed, in the mere perception of a relation of some sort. To these feelings of mere relation, as arising directly from the previous states of mind which suggest them, I have given the name of relative suggestions" (*Phil. of Hum. Mind*, Lect. 45). It will be seen from this quotation that both kinds of suggestion are mechanical processes. The difference between them lies in the fact that in simple suggestion the presented content of the subsequent state in no way includes the content of states which precede it, whereas in relative suggestion the subsequent state consists in the "mere perception of a relation of some sort" between the contents presented in the several states which precede and introduce it. The distinctive peculiarity of this view as compared with the Herbartian, is that it reduces all mechanical relation to simple and exclusive succession. Herbart, on the contrary, postulates the reciprocal interaction of mechanical factors in one and the same total state of consciousness. Brown's view makes it impossible for him to exhibit a uniform correspondence between definite variations in mechanical connexion and definite variations in the nature of the presented content. For mere succession does not admit of any variation except in the content of the successive presentations or in their relation of priority and subsequence. Brown regarded the ultimate unit of mechanical relation as a total "state of mind," and he is perpetually reminding his readers that the mind cannot be in two states at once. It was thus impossible for him to admit any kind of mechanical union as the immediate and simultaneous counterpart of the co-presentation of distinct contents.

Brown does, indeed, constantly speak of complex mental

states, and he endeavours, with great zeal and success, to analyse them into their components. Moreover, in one passage at least he seems to protest against the very doctrine which I have ascribed to him. In his thirty-ninth Lecture he assails the assumption or rather the disposition to assume, that the state of mind at one moment must always be so different from the state of mind at the moment preceding that one idea must necessarily fade as a new one arises. He declares, on the contrary, that a continued existence of our associated feelings is essential to all "continuity of design, and to every wide comparison of the relations of things, and to all complex emotion". These remarks of Brown, when they are closely examined, confirm rather than weaken my previous statement. They serve to exhibit in a marked manner the characteristic tendency, shared by him with the English school in general, to reduce all mechanical, as distinguished from presented, relation to mere exclusive succession. In the first place, it is significant that he should have thought it necessary to make a formal protest against the view that one idea must always pass out of existence as another one arises. He refers to his own opposing doctrine as if he considered it to some degree original, inasmuch as it expressed a "much neglected property" of the suggestive principle. The cause of this neglect is, in his opinion, the exclusive use of certain phrases. "We are so much accustomed to talk of the succession of our ideas, of the trains of our ideas, of the current of our thought, and to use so many other phrases of mere succession, to the exclusion of all notions of coexistence in speaking of the modifications of the principle of suggestion, that by the habitual use of these terms we are led to think of our ideas as consecutive only." There is no doubt that the tendency thus described pervades the work of nearly all English psychologists, and that it gives a peculiar character to their doctrine of Association. Brown chafed under the limitation thus imposed on scientific explanation, and, as we shall see, he made a skilful attempt to free himself from it. But he could only achieve a partial success, because the root of the evil lay deeper than he thought. It was not merely the misleading influence of certain familiar phrases which caused writers on the "philosophy of the human mind" to think of mental process mainly as consisting in a series of mental modifications following each other in "separate and exclusive succession like the moving figures of a continued train". The very attempt which he and others made to rid themselves of this prejudice serves only to disclose the hidden assumption which rendered it in-

evitable. To make this clear, we must examine the doctrine of mental complexity explicitly formulated by Brown, and more or less blindly presupposed by almost all other psychologists of the English school.

§ 2. *Brown's Doctrine of Mental Complexity.* Brown teaches clearly and emphatically that various modes of consciousness may coexist with each other as well as follow each other. But he always takes care to add that the coexistence is merely "virtual" or seeming, whereas the succession is assumed to be real. He cautions his readers against "the mistake of supposing that the most complex states of mind are not truly in their very essence as much one and indivisible as those which we term simple" (Lect. 45). "The complexity and seeming coexistence" are, in his view, "relative to our feeling only, not to their own absolute nature". We are aware on reflection of the virtual equivalence of one state of mind, which we therefore term complex, to a number of other states which we term simple. Now, whatever else Brown meant by this doctrine, the general scope and tendency of his work clearly show that he at least intended to deny mechanical coexistence involving reciprocal interaction. The coexistent complexity which he admitted was complexity of the presented content, not of the psychological mechanism. On reflective comparison of the content of one state of consciousness with the contents of other precedent states, we become aware that the latter are in a certain manner comprehended in the former. But the several states in which these contents are presented are, mechanically considered, ultimate and indecomposable units. Moreover, they are *ex hypothesi* total states of mind, and, therefore, cannot exist together in the same moment of time. Thus from the mechanical point of view there can be no such thing as coexistence or combination. Two mental states never unite in a third. They are only capable of being antecedents, on which a third follows having a content, seen on reflection to resemble them. "They do not involve or constitute; they merely give occasion to this third state in consequence of the peculiar susceptibilities of the mind itself, as formed by its divine Author, to be affected in this particular manner after being affected in those different manners which constitute the separate perceptions" (presentations), "as sensation itself, the primary feeling, was made to depend on some previous organic affection produced by an external object" (Lect. 33).

If we suppose a number of antecedent states to introduce another by a process resembling relative suggestion, but differing from it in the absence of any apparent equivalence between the content of the suggested state and the contents of those which suggest it, we have the phenomenon of mental chemistry, as it has been called. James Mill, to whom the credit of having discovered this process is commonly ascribed, describes it as follows: "Ideas, which have been so often conjoined that whenever one exists in the mind the others immediately exist along with it, seem to run into one another, to coalesce, as it were, and out of many to form one idea; which idea, however in reality complex, appears to be no less simple than any of those of which it is compounded" (*Analysis*, c. iii. § 8). I cannot say what was the exact meaning attached by Mill to the phrase "in reality complex". The whole scope of his work shows that he did not entertain the conception of mechanical coexistence in the Herbartian sense. Otherwise we might suppose him to intend a contrast between plurality of mechanical constituents and apparent simplicity of presented content. This interpretation being inadmissible, I can only treat this "coalescence" of ideas as a case of relative suggestion, distinguished from other cases by the circumstance that in it there is no discernible equivalence between the content of the suggested state and the contents of its antecedents.

§ 3. *Brown's substitution of the term Suggestion for Association.* The word Association is usually employed by English writers to denote the tendency of the mind to exist in certain states after existing in certain other states. Brown proposed to substitute the term Suggestion for Association, and he brought forward urgent reasons for this course, which place in a striking light the antithesis between the Herbartian and the Associational conception of the psychological mechanism. He objects to the word Association, on the ground that it implies a baseless preconception concerning the nature of the process by which mental states suggest each other. It implies, he says, the existence of some preformed tie on which the suggestion depends. As against this tacit assumption, he asserts the entire absence of evidence for the existence of any process of association preceding and conditioning the process of suggestion. He points out that there is no reason for assuming the operation of any law or general tendency of the mind which does not come into play in the very moment when one mental

state calls up another. Now, it seems to me that Brown was perfectly justified in taking up this position, which is also that of James Mill, who expressly states that by association of ideas he means nothing but the "order of occurrence". From the general point of view common to the English school, there certainly was not, and could not be, any evidence of a preformed mechanical union between two ideas, as distinguished from the regular sequence in which the one follows the other, or, to use James Mill's expression, "springs up" after the other. No such union could be observed at the moment of their contiguity. Nor was there, according to the Associationists, any trace of its operation between that moment and the time when it was supposed to manifest itself in the actual process of reproduction, or, as Brown calls it, suggestion. In the interval, the very elements supposed to be united were thought to have entirely passed out of existence. Nay, if we push to an extreme the reduction of all mechanical connexion to mere exclusive succession, one of them had ceased to exist before the other came into being. In fact, a great part of Mr. F. H. Bradley's argument, in bk. ii. c. 1 of his *Logic*, might be urged in support of Brown's contention. Now, if we turn to Herbart's Exposition, we shall find that the formation of a mechanical union in the moment of co-presentation is no mere gratuitous assumption, which can be dropped without material injury to the rest of the system. He treats the mind, even in its mechanical aspect, not as a series of mutually exclusive states, but as a single continuous whole determining the simultaneous and successive relations of its parts or aspects. The mechanical factors which co-operate in any one state persist *quâ* mechanical factors through all other states. Even when a content entirely ceases to be presented in consciousness, the corresponding presentative activity is still operative in so far as it excludes from consciousness other presentative activity. The mechanical union which attends co-presentation is, therefore, operative from the moment in which it takes places and ever afterwards, as determining the mode and degree in which the connected presentations suffer and produce arrest, and also as a condition of pleasurable or painful feeling and of desire. What Brown calls suggestion, *i.e.*, reproduction in distinct consciousness, is only one mode among others in which the connexion of presentations manifests itself.

§ 4. *Unconscious and Subconscious States of Mind.* Herbart's

view of the psychological mechanism as a continuous system determining the relations of its parts according to fundamental principles of interconnexion, carries with it one necessary consequence which is alien to English modes of thought. It involves the assumption of mental modifications which are not objects of consciousness, and even of mental modifications which are not in consciousness at all. Herbart is compelled to posit the persistence of presentative activities even when the presented content is not attended to, *i.e.*, when it does not possess that peculiar salience in consciousness which results from the apperceptive process. He is moreover compelled, as a consequence of the peculiar mode in which he conceived this systematic connexion of mental processes, to posit not only presentations in all stages of obscuration, but presentative activities which are in the strictest sense unconscious. This need, arising from the endeavour after complete systematic explanation, was not as a rule felt by English psychologists. Yet they at times were confronted with phenomena which seem most naturally explicable by some hypothesis of the kind. The mode in which they dealt with such questions is highly interesting as throwing light on their general psychological position. It is characteristic of the English school that the problem should have presented itself to them mainly in connexion with the difficulty of accounting for the apparent omission of links in a successive series. Hartley was the first to give prominence to the question by his doctrine of the "transitions of voluntary actions into automatic ones". He laid stress on the fact that certain actions, such as walking or playing on a musical instrument, which at first require a series of volitions, come to be performed after long practice without the "intervention of the idea or state of mind called will," purely in virtue of the predisposition of the physiological mechanism. It never occurs to him to assume the existence of unconscious or subconscious mental states. He contents himself, in this instance no doubt rightly, with the view that each movement comes to be so intimately associated with preceding movements and sensations, that it immediately follows on these, without the interposition of any mental state corresponding to the separate volitions, which were at first indispensable links in the chain of events. Dugald Stewart criticises this view, and compares Hartley's procedure to that of a "man who should maintain that, although a body projected with a moderate velocity is seen to pass through all the intermediate spaces in moving from one place to another, yet

we are not entitled to conclude that this happens when the body moves so quickly as to be invisible to the eye" (*Elements*, c. ii.). The explanation which he himself offers is that "the mind may think and will without attending to its thoughts and volitions so as afterwards to recollect them". This happens, according to him, when a series of movements involving volition follow each other with such rapidity that the acts of volition are too momentary to leave any impression on the memory. He also extends the same explanation to another class of cases, which possess greater psychological interest, those cases in which men come to a conclusion apparently without being aware of the grounds on which their belief is based. When we are convinced that a proposition is true without being able to state immediately to others, or to ourselves, what the reasons are which convince us, then, according to Dugald Stewart, a "process of thought has passed through the mind, but has passed through it so quickly that we cannot without difficulty arrest our ideas in their logical succession. It is in this way possible to investigate even truths which are pretty remote by an intellectual process which, as soon as it is finished, vanishes almost entirely from the memory."

I call attention to this doctrine solely for the sake of the illustration which it affords of the restriction of mechanical connexion to exclusive succession of states of consciousness. The problem as it presented itself to Dugald Stewart arose from the apparent omission of links in a train of mental states following each other in time. It was only for this reason that he was enabled to escape the difficulty by a supposed lapse of memory. If he had seen himself compelled to explain the absence of necessary factors in a single total state of consciousness, his hypothesis would have at once appeared untenable. It would be easy to show that all instances of a conviction formed without explicit consciousness of the reasons on which it depends, really come under this head.

§ 5. *Secondary Laws of Association.* The doctrine of Association, as commonly stated, leaves unexplained why one reproduction takes place rather than another when, according to the ordinary laws of contiguity, similarity, &c., many alternative presentations have an equal claim to "spring up". This difficulty was more or less neglected by associational writers until Brown called attention to it and made a most able attempt to remove it, which only failed of success because the defect lay rather in the general

standpoint of the school than in the special application of their fundamental principles. Brown states the question as follows (Lect. 37):—"If there be various relations, according to which the parts of our trains of thought may succeed each other—if the sight of a picture, for example, can recall to me the person whom it resembles, the artist who painted it, the friend who presented it to me, the room in which it formerly was hung, the series of portraits of which it formed a part, and perhaps many circumstances that have been accidently connected with it—why does it suggest one of these conceptions rather than others?" He attempts to solve the problem thus formulated by introducing a number of "secondary laws of suggestion" determining the special operation of the primary laws at different times and in different persons. The first circumstance mentioned by him is the length of time during which the associate presentations continued, when the one succeeded the other or "virtually" coexisted with it. He does not, however, tell us how the "length of time" operates. Indeed, he is precluded from raising this question by his denial of any process of association prior to and conditioning reproduction. Herbart's principles carry us farther. According to him, reproduction is not merely a relation between one simple state of mind as antecedent in time and another simple state as subsequent. He teaches that the reproduction of any presentation may be due to the simultaneous co-operation of an indefinite number of other presentations in all stages of distinctness. Hence the longer a presentation has at any time continued in distinct consciousness the more likely it is to be reproduced, because its direct and indirect connexions with other mental elements become more numerous and complex.

"In the second place," says Brown, "the parts of a train appear to be more closely and firmly associated as the original feelings have been more lively." This law would seem partly to answer to the Herbartian principle, according to which the tendency of one presentation to reproduce another is, *ceteris paribus*, in direct proportion to the intensity of the former at the time of their union. Brown, however, seems to refer the influence of attention to this law, together with the first law stated above. "That strong feeling of interest and curiosity which we call attention not only leads us to dwell longer on the consideration of certain objects, but also gives more vivacity to the objects on which we dwell, and in both these ways tends to fix them more strongly in the mind." But, according to Herbart, this

"strong feeling of interest and curiosity" is itself referable to the complex interaction of presentations. It has for its mechanical condition the process of apperception, involving the incorporation of the group which is apperceived with a more stable and comprehensive presentation-mass, of which it becomes an integral part. It is for this reason that attention founded on interest tends to fix its objects more strongly in the mind, and thus to favour their reproduction in distinct consciousness. The process of "fixing" is the multiplication of the connexions between one presentation and others, which therefore tend to reproduce and maintain it in its original distinctness, when and so far as they are themselves reproduced.

Brown notes, in the third place, that "the parts of any train are more readily suggested in proportion as they have been more frequently renewed". To comment on this from Herbart's standpoint would be simply to repeat what has been already said in regard to the first law. According to Brown's fifth law, "our successive feelings are associated more closely as each has coexisted less with other feelings. The song which we have never heard but from one person can scarcely be heard again by us without recalling that person to our memory; but there is obviously much less chance of this particular suggestion if we have heard the same air and words frequently sung by others". This, it will be seen, follows immediately from the Herbartian doctrine of the curtailment of series. In his other laws, Brown takes into account variations in the strength of the tendency to suggestion depending on the recency of the original feelings, on differences of original constitution in various persons, on differences of temporary emotion, on changes in the state of body, and on general tendencies arising from custom to special kinds of suggestion. From Herbart's standpoint, all these conditions, so far as they are purely psychological, are in the main reducible to one—the controlling influence on the flow of ideas of dominant apperceptive masses varying in different persons and at different times. Temporary emotion he would regard as a condition only because it implies certain mechanical relations between components of an appercipient group. Temporary or permanent states of body can only be taken into account by the psychologist in so far as they occasion organic sensations which combine with certain presentation-masses, and therefore tend to recall and retain these masses to the exclusion of others. The effect of recency is in part resolvable into the effect of the varying degrees of

remoteness of completely obscured presentations from the threshold of consciousness.

The main point which requires to be emphasised is the sporadic character of Brown's laws as compared with the systematic explanation of Herbart. Brown and his followers are compelled to supplement the primary laws of association by a number of collateral considerations, which have no essential connexion either with these primary laws or with each other. Herbart, on the other hand, bases his explanation on the fundamental relations of union and arrest, which form the mechanical counterpart of co-presentation. Moreover, even these processes are reciprocally interdependent, the one being meaningless apart from the other. Herbart attempts, with clear consciousness of his object, to base all explanation of particular psychological phenomena on the conception of the mind as a single mechanical system, determining the connexion of its constituent parts. The Associational psychologists worked to some extent in the same direction. But they did not clearly know what they were aiming at, and therefore, in spite of their unsurpassed power of fine observation, their ingenuity and acuteness, and their admirable caution, they failed to give an explanation of psychological phenomena so penetrating and complete as the Herbartian.

§ 6. "*The Objects of our Thought when we employ General Terms.*" Dugald Stewart says that there are two ways in which general truths may be obtained—"either by fixing the attention on one individual in such a manner that our reasoning may involve no circumstance but those which are common to the whole genus, or (laying aside entirely the consideration of things) by means of the general terms which language supplies". We may take this statement as expressing substantially the doctrine prevalent among English psychologists since the time of Hobbes. For the present purpose we shall consider the first of the alternatives named by Dugald Stewart. Berkeley and Hume have shown with great clearness that an idea which is particular in its existence may yet have a general signification. Their favourite illustration is drawn from the procedure of geometricians, who even in the most general reasonings direct their attention to a particular diagram. The generalisation is said to consist in the exclusive consideration of those circumstances in which the given individual resembles others of the same genus, so that no part of the reasoning has reference to circumstances other than these. Admit-

ting this to be a fairly adequate account of what takes place in many instances, so far as this can be directly observed, the very obvious question arises, how it is that certain circumstances come to be thus considered to the exclusion of others. If we turn for explanation to English Nominalists, we find the process accounted for either by a "faculty of abstraction," as in Dugald Stewart, or by reference to the use of general terms, as in Hume. As we are not here discussing the faculty-psychology, we may leave the former answer unnoticed. The efficacy of general terms in fixing the attention exclusively on certain aspects of a given presentation is explained by Hume as follows: "The same word is supposed to have been frequently applied to other individuals that are different in many respects from that idea, which is immediately present to the mind; the word not being able to revive the idea of all these individuals . . . only touches the soul, if I may be allowed so to speak, and revives that custom which we have acquired by surveying them". "For this is one of the most extraordinary circumstances in the present affair, that after the mind has produced an individual idea, upon which we reason, the attendant custom, revived by the general or abstract term, readily suggests any other individual, if by chance we form any reasoning which agrees not with it. Thus, should we mention the word triangle, and form the idea of a particular equilateral one to correspond to it, and should we afterwards assert *that the three angles of a triangle are equal to each other*, the other individuals of a scalenum and isosceles, which we overlooked at first, immediately crowd in upon us, and make us perceive the falsehood of this proposition, though it be true with relation to that idea which we had formed" (*Treatise*, vol. i., p. 329). Thus, according to Hume the general term tends to suggest all the particular ideas with which it has been associated. But it has been associated with a number of ideas which resemble each other in certain respects. When, therefore, it is presented in conjunction with one of these, it tends to reinstate the others in consciousness. This tendency may remain a mere tendency so long as the course of thought is exclusively determined by those features in the given idea which it possesses in common with others coming under the same appellation. But should any incidental features distinctive of the given particular idea begin to excite trains of suggestion, then the general term immediately calls up other particular ideas which do not possess these special features. In this way the irrelevant suggestions are at once suppressed, and the attention is restrained

from wandering. This explanation is no doubt correct so far as it goes; but it obviously does not go far enough; in fact, it only serves to raise the old question in a different form. Why does the tendency of the general term to call up other ideas become actualised so opportunely? This is, as Hume says, an "extraordinary circumstance". Again, why is the general term itself persistently attended to, so that its suggestions overpower all others? In order to answer these questions, we must either have recourse to a "faculty of abstraction" or to a more penetrating mechanical explanation than is yielded by association of ideas, as ordinarily understood. This thoroughgoing mechanical explanation Herbart attempts to supply. It is, in his view, the controlling influence of an apperceptive group which gives to certain aspects of a particular presentation special distinctness and mechanical predominance. The nature and origin of the apperceptive groups which function in general reasoning are described by him under the heading of psychological concept. It must be remembered that the appercipient group, as such, is not in itself apperceived: neither it nor its components are observed, noted, or in the ordinary sense of the word perceived. They are in consciousness, but they are not objects of consciousness. They may, indeed, become so by interaction with a new appercipient group. Yet even in this case a multitude of elements which are mechanically distinct must remain, as presented contents, undistinguished. For an appercipient mass only gives salience to certain features in the apperceived group, obscuring others. It follows that the mechanical process by which a particular idea comes to possess a general signification cannot be directly observed. Thus English thinkers like Berkeley and Hume could not possibly hit on an explanation resembling Herbart's, because of their avoidance of hypothesis and exclusive reliance on the direct, or apparently direct, deliverances of introspection.

James Mill's view on the subject resembles Herbart's up to a certain point. He regards the object of a general term as a complex idea composed of a great number of particular ideas resembling each other in certain respects. He adds that each of these component particulars is indistinct, so that the real nature of the complex can only be discovered by an effort of reflective analysis. The analogy to the Herbartian view, however, ends at this point. Mill fails to notice or explain the mechanical predominance of the homogeneous elements or aspects of the complex over the divergent details. He fails, therefore, to explain the very

point which chiefly requires explanation. This could not be otherwise, because he proceeds on the tacit assumption that the complexity of a complex idea is purely complexity of presented contents, not of interacting factors in a mechanical whole.

§ 7. *Associationists never quite free from Fallacies of Faculty-psychology.* In the foregoing sections I have endeavoured to illustrate by a number of typical cases, which might be indefinitely multiplied, the characteristic distinction between the Herbartian standpoint and that of the English Associationists. The nature of their fundamental divergence is now, I hope, clear. Herbart views all mental modifications in their mechanical aspect as interconnected parts or phases of a single concrete system. English writers, on the other hand, show a strong tendency to regard particular states of consciousness as relatively independent psychological units interconnected only by a certain order of sequence in time. The reason of this distinction is to be found in the tendency of English psychologists to avoid all hypotheses which appeared to go beyond the most simple and obvious generalisations from the immediate deliverances of introspection. Now, as Herbart has pointed out, mental processes are at once so complex and transient that we can by introspection obtain only partial glimpses of them, in which are revealed marked features common to a multitude of particular states, while specialising details remain hidden in obscurity. Hence arises a kind of involuntary generalisation. Mental phenomena present themselves *primâ facie* to even the most careful observer, not as parts, phases or aspects of a single continuous whole, but as genera and species in a system of classification. In fact the several phenomena revealed to introspection are mere abstractions, and it is impossible to exhibit the concrete whole in and through which they have being without having recourse to hypotheses involving the operation of subconscious or unconscious elements, and therefore transcending what are taken to be the direct deliverances of introspection. To the English psychologists who were debarred from adopting this method, there were only two courses open. One was to treat class-concepts of mental occurrences as if they were real agencies producing these occurrences. This is faculty-psychology of the worst kind. It was impossible from the nature of their general position that the English psychologists should wholly escape this fallacy. But as a rule its positive influence is in their case confined to language only. Their

caution and good sense save them from attempting on this basis pretentious explanations which explain nothing, such as we find in Wolff. On the other hand, this mode of approaching psychological problems exercised on them a disastrous negative influence, inasmuch as it frequently caused them to stop short prematurely in their investigations. So soon as they had referred a certain class of processes to a distinct faculty, they considered further inquiry as worse than useless. This characteristic is most prominently exemplified in Locke, Reid and Stewart. Compare, for instance, Herbart's searching examination of the nature of inner perception with Locke's easy assumption of a distinct faculty of reflection. Hartley and James Mill are almost wholly free from the tendency referred to, not altogether on the ground of deeper insight, but in part from the want of it. They were so preoccupied with "Association of Ideas" as a principle of explanation that they sometimes slurred over or failed to notice phenomena not explicable by that principle. For example, James Mill does not assume a faculty of abstraction. But, as we have seen, he fails to face the difficulties which seem at first sight to require this assumption. He denies that there is a separate faculty of "consciousness," *i.e.*, of introspection. But he does not discuss the nature of introspection except in a vague and general manner. Consciousness, he says, is a "generical mark" for ideas, thoughts, beliefs and other modes of "feeling". He does not, however, tell us why we apply this mark at one time and not at another; nor does he inquire what peculiar attitude of mind is involved in the act of applying it (*Analysis*, ch. v.). Similar criticism is suggested by his account of the consciousness of self as compared with Herbart's elaborate discussion of the same subject.

In general, it was through the attempt to minimise the number of distinct faculties that the Associational psychology arose. Association of ideas was commonly regarded as one faculty among others, possessing however the recommendation of being the most comprehensive. This point may be strikingly illustrated by quotations from Brown. He introduces his reduction of all the "intellectual states of mind" to the two classes of simple and relative suggestions, in the following manner: "The mind has truly as many susceptibilities as in various circumstances it can have different feelings. But still when we arrange these different phenomena in certain classes, it is an error in classification to give a new name to varieties that can be referred

to other parts of the division already made. . . . It is with the intellectual phenomena that we are at present concerned; and this order I would arrange under two generic capacities, that appear to me to comprehend or exhaust the phenomena of the order." This is the mode in which Brown habitually expresses himself. He always speaks as if the aim of the "Philosophy of Mind" were to produce a comprehensive scheme of classification, with the fewest possible divisions and subdivisions. Thus though he did his utmost to avoid undue multiplication of faculties, yet he continued to regard mental states as if they were relatively independent individuals to be compared and classified, rather than as abstractions having existence only in the systematic totality of the individual mind.

§ 8. *Abstract and Concrete Unity of the Mind.* Brown did indeed hold, like most other English thinkers, the unity and persistent identity of the "spiritual principle". But this unity and identity was for him a mere abstraction falsely regarded as a reality. So far as the conception influences his psychology, the influence is sinister. His favourite argument for psychological atomism, which characterises the English school generally though it receives from him its most clear and explicit expression, is derived from the unity and simplicity of the mind. The mind, he asserts, cannot exist in two states at once, because it is an indivisible substance. Therefore he is compelled to reduce all psychological process to bare succession in time. The unity of the mind is for him rather an abstract unity excluding difference, than a concrete unity including and connecting differences. Herbart also, *quâ* metaphysician, regarded the soul as a unity excluding difference. He even held this doctrine in a more rigid and uncompromising form than any other philosopher. But for this very reason he was forced practically to neglect it, in his treatment of psychology. He himself was unaware of this. He even maintained the contrary. Nevertheless the fact remains, that in his psychological investigation the abstract metaphysical unity of the soul becomes transformed into a concrete unity pervading and connecting the manifold variety of individual experience. With Brown the case was otherwise. He did not push his view of the simplicity of the "spiritual substance" to such an extreme as to exclude the possibility of successive modification and of "virtual or seeming" coexistence. All other modes of difference he held to be inadmissible, but these he allows without misgiving. Thus his metaphysical

doctrine of mental unity does not entirely exclude the variety of actual experience. He was not compelled wholly to tranform or discard it in treating psychological problems. Hence it is perpetually present in his writings, hampering and restricting him in manifold ways.

Brown's general position in this respect was inherited from Locke, and it is shared more or less by most of Locke's English followers. Locke, starting with a plurality of unrelated ideas, regards the mind as an agency which pieces them together so as to form a connected experience. Thus he separates unity and difference, so that each becomes an impossible abstraction, at the same time regarding these abstractions as in some sort realities, one of which acts on the other. The mind is represented by him as compounding, separating and enlarging the material supplied by sensation and reflection. He was, in consequence of this view, powerless to reject innate faculties as he rejected innate ideas. The simple ideas, as derived from inner or outer sensation, were essentially disconnected. The mind combined and arranged them, therefore, in virtue of its inherent powers. In truth, the doctrine of simple ideas almost inevitably carries with it the faculty-psychology in some shape. The only means of entirely escaping it is to change altogether that view of the unity of the mind on which Locke's theory rests. For the conception of an agency combining simple ideas must be substituted the denial that there is such a thing as a simple idea. This step was never taken by any of the English thinkers. Brown partially disguised rather than overcame the difficulty by his doctrine of relative suggestion. His view of successive mental states as indivisible and mutually exclusive mechanical units is open to all the objections which attach to Locke's position.

§ 9. *Transition to Beneke.* For Herbart as well as for Locke and his successors the unity of the mind was primarily an hypostasised abstraction of unity. But the German thinker differs from the English both in the manner in which he arrived at this conception, and in the psychological consequences which he deduced from it. It was through exclusive reliance on the immediate evidence of internal perception that the countrymen of Bacon fell into this error. With Herbart, on the contrary, it was an integral part of an elaborate and highly speculative system of metaphysics. He was led by a process of abstract reasoning to maintain the simplicity of the soul in so ab-

solute a sense that he was compelled to exclude from its intrinsic nature all variety and difference whatever, including even successive modification in time. Thus he cannot, like Locke, treat the mind as essentially a combining agency, or, like Brown, as a substance passing through a series of states. He is therefore unable to introduce into his psychology the metaphysical conception of the unity of the soul, except by transforming it, however inconsistently, into a conception of synthetic unity, which takes a two-fold form in its application to presented content and to mechanical interaction respectively. On the side of the presented content it is the unity of consciousness; considered from the point of view of the interaction of presentative activities, it is the systematic unity of the psychological mechanism. It might, however, be expected that Herbart's metaphysical presuppositions would modify the form in which this systematic unity was conceived, and modify it in such a manner that many of his psychological tenets must appear baseless and arbitrary to those who do not share his speculative opinions. It is, therefore, highly important and interesting to inquire how far the special modes of psychological interaction recognised by him are really necessary to the thorough explanation of mental processes as forming a concrete system, and how far they are referable merely to his peculiar doctrine concerning the nature of the soul. For this reason the work of Beneke possesses a special interest. Beneke, like the English Associationists, bases, or professes to base, his psychology on introspection only, in entire independence of metaphysical preconceptions. But he differs from them and agrees with Herbart in his conception of the scope and aim of psychology. He is not merely discontented with the undue multiplication of faculties; he holds that the very conception of a faculty in the ordinary sense of the word rests on a false view of the function of the psychologist, as consisting essentially in description and classification. This view, according to him, works mischief in a two-fold way. In the first place, the reduction of a plurality of mental phenomena under a single concept comes to be regarded as equivalent to the reference of these phenomena to a single cause, named a power, susceptibility or faculty. In the second place, psychologists, being restricted to observation of the processes of their own relatively mature consciousness, are debarred from inquiring how these processes have been evolved in the course of mental development. Thus powers which were really the results of a long evolution were regarded by them as present from the first in the form

of innate faculties. Beneke, partly under the influence of Herbart, though in a manner peculiar to himself, substitutes for the classificatory view of mental phenomena the conception of mind as a concrete system of interacting elements. He is thus compelled to have recourse to hypotheses introducing mental processes and factors which evade introspection, in order to interconnect in a continuous whole the factors and processes which introspection more directly reveals.

But in the framing of these hypotheses he is unbiased by any preconceived metaphysical system, and depends entirely on the exigencies of psychological explanation. He constantly claims that his psychology is based purely on internal experience. It is true that he often fails to distinguish between untenable guesses and facts supposed to be directly revealed through introspection. Indeed, his theories are in many points less strongly supported by experience than those of Herbart. Nevertheless, his view of the fundamental psychological processes seems to be at least in one important respect much better warranted by facts than is the Herbartian. I proceed to consider this aspect of Beneke's work, disengaging it as far as possible from other untenable parts of his teaching, by which it is hidden and disguised. It may be as well to premise that Beneke was a younger contemporary of Herbart, that he was born in 1798 and died in 1854, and that his principal works on psychology are *Psychologische Skizzen* (1825 and 1827), *Lehrbuch der Psychologie als Naturwissenschaft* (1833, 4th ed., 1877), and *Die Neue Psychologie* (1845).

§ 10. *Beneke proposes a theory of Redistribution instead of a theory of Arrest.* Herbart holds that, by reason of the simplicity of the soul, it is impossible for presentations of contrary quality to coexist in consciousness without reciprocal arrest. This principle pervades his whole system and gives unity to it. Now, Beneke being untrammeled by the Herbartian metaphysic was led to reject this theory of arrest on purely psychological grounds. He denies the existence of any evidence to show that contrary presentations, as such, conflict except under special conditions. The central position which the conception of direct conflict occupies in Herbart's system, belongs in Beneke's rather to the conception of competition. If Herbart's view may be illustrated by the analogy of physical forces acting at the same point in opposite directions, Beneke's suggests rather the process by which one body becomes cooler in communicat-

ing heat to another. Beneke holds that there is a continual redistribution of transferable elements within the total system of mental modifications, conscious and unconscious. Thus, when a presentation-desire or emotion rises either in consciousness or into consciousness, it does so because it receives an increased quantity of these transferable elements. Conversely, sinking in consciousness or out of consciousness is, except in certain special cases, due to the withdrawal of such elements. The direction in which interchange of transferable elements takes place is determined (1) by a general tendency to equal distribution, and (2) by the various degrees of union between the constituents of the mental system. The tendency to equal distribution is most important as a negative condition; excluding the possibility of transference from A to B, unless when A possesses more transferable elements than B. In the second place, transferable elements are communicated from one mental modification to others in greater or less quantity according to the greater or less intimacy of its union with them. Psychological union depends either on likeness or on coexistence in consciousness or on both. The union which depends on coexistence in consciousness is more or less intimate according as the coexistence is more or less complete or more or less often repeated. The coexistence of A with B gives rise, *ceteris paribus*, to a closer union the more completely each is present in consciousness. On the other hand, the least possible degree of union results when at the time of their coexistence one is in the last degree of obscuration and the other barely emerging from unconsciousness. Beneke does not enter into details as to the precise mode in which repetition strengthens mental combinations. No close and stable union depends on likeness alone; for as often as A reproduces an A^1 which resembles it, A and A^1 meet in consciousness, so that union between them must take place on this ground also. If we disregard Beneke's strange terminology, and consider only the most general purport of the above doctrine, it seems more in accord with the best teaching of later times than is the Herbartian theory of arrest. If we substitute the term "attention" or "psychical force" (*seelische Kraft*) for transferable elements, we see at once that Beneke's general position is not without essential analogy to that of Dr. J. Ward and of Dr. Theodor Lipps. But a closer examination of his teaching shows that the difference in terminology is a sign of most important differences in doctrine.

§ 11. *Characteristic Peculiarities of Beneke's Theory.* The phrase *transferable elements* is in Beneke's writings to be taken quite literally as indicating actual constituents of one presentation which are actually communicated to others. When A reproduces B, it is on this view supposed literally to lose a portion of its components, which become components of B. Beneke holds that there are two fundamentally distinct kinds of transferable elements on which voluntary and non-voluntary reproductions respectively depend. The original constituents of the soul anterior to experience are of essentially the same nature with the elements which mediate voluntary reproduction. Beneke calls this whole class of mental elements "faculties". They are supposed by him to be quite different from the faculties of the faculty-psychology. They are in themselves mere blind tendencies, which can become actual modes of consciousness only by appropriating other elements of a different nature. These other elements are called "stimulants". They come from without the mind, and are appropriated by the faculties in the process of sensation. When stimulants are thus appropriated by faculties they become constituents of the mental system. The part played by them within this system varies according as they do or do not enter into stable and permanent union with the faculties by which they are appropriated. In the former case they become fixed as distinguished from transferable elements. In the latter case they may become disunited from their existing combination and enter into new ones. They in this way become part of the transferable elements which are being perpetually redistributed within the mental system. By means of these free stimulants non-voluntary reproduction takes place. Voluntary reproductions, on the other hand, takes place by means of free faculties, which are not received from without, but are continually being generated within the mental system.

§ 12. *Critical Comparison of the Theory of Redistribution with that of Arrest.* Many of Beneke's hypotheses are no doubt quite wild and untenable. But the general conception of the working of the psychological mechanism through which presentations disappear and reappear, or wane and wax in distinctness, seems to have a firm basis in fact. I do not mean that the theory of transferable elements can be in any way justified. What I refer to is the general principle that the rising of one presentation is so correlated with the sinking of others, and *vice versâ*, that the whole process can

best be formulated for psychological purposes as a transference of something from the presentation which wanes in distinctness to that which waxes in distinctness. This something we may regard either as a reality or as a fiction, and we may call it attention or psychical energy, or by any other convenient name. But we must not, like Beneke, regard it as a constituent element of the presented content. Nothing is ever transferred from one presented content to another. A presentation becomes more or less distinct as more or fewer qualitative details become distinguishable in it. Now it is obviously untrue that the qualitative details of one presentation ever become transferred to another when the latter becomes clearer in consequence of the former becoming obscured. Only when we disregard presented content, and merely formulate the mechanical connexion of mental processes in its quantitative aspect, do we find a legitimate scope and meaning for the conception of a transferable somewhat continually redistributed within the mental system. From this point of view, however, the conception is certainly of value, and it is to be preferred to Herbart's theory of conflict. The antagonism of presentations arising from the contrariety of their content was asserted by Herbart as a consequence of the simplicity of the soul, and it loses all *a priori* plausibility when this simplicity is denied. Nor is it the most natural hypothesis suggested by the obvious facts revealed to introspection. Common sense certainly favours the view that variation in the relative distinctness of presentations is conditioned by limitation in the total quantity of attention, which, as it is concentrated on one object, is *ipso facto* withdrawn from others. Mental conflict is generally recognised as taking place under certain conditions, *e.g.*, when different reasons urge us to attach contrary predicates to the same subject, or when different motives impel us to incompatible lines of action. But this kind of struggle, although its importance in mental life can hardly be exaggerated, does not resemble the Herbartian conflict of presentations either in its nature or in the conditions of its genesis. These reasons are sufficient to raise a presumption against Herbart's hypothesis. More serious objections may be brought against his theory on the ground of its internal inconsistency and its incompatibility with obvious facts. It is inconsistent both to admit and to deny the possibility of contrary contents being co-presented. Yet this contradiction is involved in the theory of arrest. If antagonism between two presentations arises solely from their qualitative contrariety, it is im-

possible that it should cease to exist except through the extrusion of both presentations from consciousness, or through their qualitative modification within consciousness. These alternatives are, however, both excluded by the facts, seeing that contrary contents are co-presented in every moment of conscious life. Hence Herbart was compelled to be untrue to his fundamental position, being reduced to the assumption that contrary contents might coexist in consciousness provided that each suffered diminution in intensity to a certain calculable degree. Another fallacy is contained in the conception of a variation affecting intensity independently of quality. The words "obscure" and "distinct" indicate a qualitative difference. A presentation is more or less distinct according to the number of qualitative details distinguishable within it. It is true that concentration and withdrawal of attention in Dr. J. Ward's sense may or may not occasion corresponding increase and decrease of distinctness. But even in this case a qualitative variation takes place, which may be described as a difference in mass, or, to use a phrase of Mr. H. Spencer's, a difference of "area in consciousness". On the whole, we must treat as a meaningless fiction Herbart's assumption that a presentation may pass through an indefinite number of gradations of intensity and yet retain unaltered its characteristic quality.

§ 13. *Beneke's Relation to English Psychology.* Beneke tells us that in his youth, when his opinions were yet in process of formation, he made an earnest study of English philosophical writings (*Die Neue Psych.*, p. 81). He seems throughout his career to have followed the progress of English thought with lively interest, and he never fails to recognise in it a spirit and tendency kindred to his own. He complains, indeed, that the English do not go deep enough, and that they even stop short, in many cases, where inquiry ought properly to begin. But he maintains that they are on the same track which he himself endeavours to follow, the only difference being that he pursues this track further than they (*Die Neue Psych.*, pp. 300-337). He was at least in agreement with them on two fundamental points—(1) the dependence of all other branches of philosophy on psychology, (2) the dependence of psychology on introspection, and in the last resort on introspection only. These capital points of agreement with English thinkers are at the same time capital points of disagreement between him and Herbart. Further traces of English influence on Beneke are perhaps to be found in his assiduous study of all facts likely to throw

light on psychological problems, and at times also in his treatment of special questions. It must, however, be confessed that there was one lesson which he failed to learn from his favourite English writers. He did not learn from them to be cautious. The word which in the mouths of Reid, Brown and Stewart expressed the highest praise that a writer on the philosophy of the human mind could merit, was the word "judicious". Now, Beneke was anything rather than judicious. He claimed with reason the right of framing hypotheses to explain observed facts. But he pushed his hypotheses far beyond what the exigencies of psychological explanation required. Worse than this, he regarded some of his most arbitrary theories, *e.g.*, the appropriation of stimulants by faculties, as directly based on the evidence of introspection. Nevertheless, it is right to treat him as a kind of link between English Associational psychology on the one hand, and the psychology of Herbart on the other. For he was at one with the latter in his endeavour after complete mechanical explanation, and he was at one with the former in starting from introspection alone, to the exclusion of preformed metaphysical views.

I propose to follow with two more articles: one dealing with the school founded in Germany by Herbart; and the last treating of the general influence of Herbart on psychological science.

II.—THE EVOLUTION OF MORALITY.

By Prof. James Seth.

The conception of Evolution has now established itself so firmly in the scientific and even in the popular mind that it becomes necessary for Philosophy to come to an understanding with it. If it may be said that generally the business of Philosophy is the investigation of the ultimate value of scientific conceptions, it must be peculiarly concerned with this, the latest and widest, generalisation of science. More particularly, it is of the utmost importance, for the satisfaction not only of the speculative but also of the practical interest, to determine the ethical implications of the Evolution-theory. Does it carry with it any ethical doctrine; and if so, how is this related to older theories, and how far does it take us in the interpretation of the facts of moral life? For an answer to these questions Evolutionists, even when not professed philosophers, have not left us entirely to ourselves. Their answers, however, are different, and even, in some points, contradictory. Limiting our attention to representative writers, we have three answers, more or less divergent. The bearing of the Evolution-theory upon human life and conduct has been investigated by its most original modern exponent in the *Descent of Man* (pt. i. c. 4), more elaborately by Mr. Herbert Spencer in his *Data of Ethics*, and still more recently and fully by Mr. Leslie Stephen in his *Science of Ethics*.

While these writers differ in their account of moral life, and in their definition of the ethical end, they are at one on the question of method. The reform in ethical method which they, and the "school" constituted by their followers, seek in common to introduce is, in words, the same as Kant's reform of metaphysical procedure, namely, to make it "scientific". Previous ethical theories, they say, have been either "empirical" or "*a priori*". Neither method is the true one. Apply the principle of Evolution to the phenomena of moral life, as it has already been applied to the phenomena of physical life and inorganic nature, and the former, equally with the latter, will fall into order and system. Morality, like Nature, has evolved; and neither can be understood except in the light of its evolution. Nay, the evolution of morality is part and parcel of the general

evolution of nature, its crown and climax indeed, but of the same warp and woof. In the successful application of his theory to moral life, therefore, the Evolutionist sees the satisfaction of his highest ambition; for it is here that the critical point is reached which shall decide whether or not his conception is potent to reduce all knowledge to unity. If morality offers no resistance to its application, its adequacy is once for all completely vindicated. Thus we are offered, by the three writers mentioned, what Green calls a "natural science of morals". Mr. Leslie Stephen, indeed, expressly limits himself to the "scientific" view, not excluding a possible "philosophical" or "transcendental" account of the same facts. But Mr. Stephen, equally with Darwin and Spencer, implies throughout that the "scientific" or "natural" account of morality is the only fruitful one. I propose in this paper, after tracing summarily the results reached by this new ethical method in the hands of the three thinkers just named, to endeavour to arrive at some estimate of its adequacy as employed by them for the solution of the main problems of ethics.

Man's chief superiority to the lower animals, according to Darwin, lies in his "intellectual powers" and "social qualities". But even here, in his mental and moral faculties, Darwin recognises no essential difference between man and the higher mammals. "The difference . . . great as it is, certainly is one of degree, and not of kind. . . . The senses and intuitions, the various emotions and faculties, . . . of which man boasts, may be found in an incipient, or even sometimes in a well-developed condition, in the lower animals." Of these faculties, "the moral sense or conscience" is, he admits, "by far the most important". Approaching the question of its nature and genesis "exclusively from the side of natural history" (for the first time, as he says), he enunciates the following proposition as "in a high degree probable":—"that any animal whatever, endowed with well-marked social instincts, the parental and filial affections being here included, would inevitably acquire a moral sense or conscience as soon as its intellectual powers had become as well, or nearly as well, developed as in man". The origin of the moral sense is thus found in the social impulse, a primary animal instinct which demands its satisfaction as immediately as any other instinct. Its development is due to the obvious utility of such an instinct; here, as elsewhere, the Law of Evolution is "natural selection". The social instinct being "one

of high importance to all those animals which aid and defend one another, it will have been increased through natural selection; for those communities which included the greatest number of the most sympathetic members would flourish best and rear the greatest number of offspring".

But how shall we account for the peculiar authority of the moral, that is, the social, feelings? The social instincts are not actually stronger than "the instincts of self-preservation". "Why, then, does man regret, even though trying to banish such regret, that he has followed the one natural impulse rather than the other; and why does he further feel that he *ought* to regret his conduct? Man in this respect differs profoundly from the lower animals." With the latter, the question is one merely of the relative strength of different impulses; with man, there is clearly another consideration. As a reflective being, he cannot help instituting a comparison between the results which follow the gratification of his various impulses. The social instincts, he finds, are "ever present and persistent," while the others are in their nature "temporary". The former are also more capable of being recalled in imagination, and, to man as a social being, afford a greater satisfaction than the latter. On these differences is based the distinction between the actual and the legitimate strength of an impulse. Let a man gratify a peremptory selfish instinct, what will be his experience as he regards this gratification in the calm light of reflection? "When past and weaker impressions are judged by the ever-enduring social instinct, and by his deep regard for the good opinion of his fellows, retribution will surely come. He will then feel remorse, repentance, regret or shame. . . . He will consequently resolve, more or less firmly, to act differently for the future; and this is conscience." "Thus at last man comes to feel, through acquired and perhaps inherited habit, that it is best for him to obey his more persistent impulses. The imperious word *ought* seems merely to imply the consciousness of the existence of a rule of conduct, however it may have originated."

This theory of morality Darwin enunciates as the ethical corollary of the general theory of Evolution. His position may be called Utilitarian; but Darwin himself distinguishes it carefully from Hedonism, whether of the egoistic or altruistic type. The result of reflection on human conduct and its motives is, he holds, the recognition, in man, of "an impulsive power widely different from a search after pleasure or happiness; and this seems to be the deeply-planted social

instinct". Further, the object of this primary and enduring instinct is "the general good or welfare of the community, rather than the general happiness". "The term general good may be defined as the rearing of the greatest number of individuals in full vigour and health, with all their faculties perfect, under the conditions to which they are subjected." The "general good or welfare" and the "general happiness," it is true, "usually coincide"; "and, as all wish for happiness, the 'greatest happiness principle' will have become a most important secondary guide and object". But the direct and primary object of the social instinct is the welfare—in the sense explained above—of the community, narrower or wider, and ultimately of the race itself. In this alone it finds its proper satisfaction; and in proportion as the intellectual grasp of this becomes more comprehensive, the range of the social instinct, and thus of morality itself, is extended.

Mr. Spencer, while professing to limit himself, like Darwin, to "the implications of the Evolution-hypothesis," offers us a theory of morality essentially different from that just described. He differs from Darwin in his account of the ethical end, of the place of obligation in moral life, and of the relation of the egoistic and altruistic sides of morality. His attitude to older theories is also different. While Darwin, without regard to the various historical theories of morality, elaborated an independent ethical theory on the basis of Evolution, Mr. Spencer undertakes his task with a "reconciling project" of an ambitious kind.

The subject-matter of Ethics is, in his view, "that form which universal conduct assumes during the last stages of its evolution". Conduct is "the adjustment of acts to ends," and in the growing complexity and completeness of this adjustment consists its evolution. Things and actions are "good or bad according as they are well or ill adapted to achieve prescribed ends," or "according as the adjustments of acts to ends are or are not efficient". And, ultimately, their goodness or badness is determined by the measure in which all minor ends are merged in the grand end of self- and race-preservation. As "evolution becomes the highest possible where the conduct simultaneously achieves the greatest totality of life in self, in offspring and in fellow-men, so . . . the conduct called good rises to the conduct conceived as best when it fulfils all three classes of ends at the same time". Thus "the ideal goal to the natural

evolution of conduct" is at the same time "the ideal standard of conduct ethically considered".

The universal end of conduct, therefore, is "life"—its preservation and development. But Mr. Spencer is not content, like Darwin, with this simple deduction from the theory of Evolution. He proceeds to interpret "life," on the old hedonistic lines. "In calling good the conduct which subserves life, and bad the conduct which hinders or destroys it, and in so implying that life is a blessing and not a curse, we are inevitably asserting that conduct is good or bad according as its total effects are pleasurable or painful." "No school can avoid taking for the ultimate moral aim a desirable state of feeling called by whatever name—gratification, enjoyment, happiness. Pleasure, somewhere, at some time, to some being or beings, is an inexpugnable element of the conception. It is as much a necessary form of moral intuition as space is a necessary form of intellectual intuition."

The modification thus given to the old Utilitarianism, however, by the application of the conception of Evolution, must be carefully noted. While former Utilitarian theories were empirical and inductive, Evolutional Utilitarianism is rational and deductive. The old Utilitarianism, which derived its principles of conduct from observation of consequences, or, at best, as with Mill, by deduction from rules which are themselves the result of previous inductions, "is but preparatory to the utilitarianism which deduces these principles from the processes of life, as carried on under established conditions of existence". For, since the moral estimate of conduct proceeds entirely upon the relative efficiency of the adjustment of the living being to the conditions of his life, that is, to his environment, physical and social; from the nature of these conditions and their variations, the nature of the corresponding conduct and its variations may with certainty be deduced.

Further, this view of moral principles, it is contended, not only places Utilitarianism upon a new and scientific basis, it also affords a ground of conciliation between "intuitional" and "derivative" theories of morality. For, while moral rules, thus conceived, are seen to be the result of the experience of the race, to the individual they still present themselves as "intuitions". Moral intuitions are not, any more than intellectual intuitions, simple and original; they are "the slowly organised results of experiences received by the race". But these results are not to be regarded as an external possession, as a "nautical almanac" which may

or may not be consulted by the individual. They are a part of himself, as the heir of all the ages which have preceded him. The experience of the race does not consist of isolated parts, or pass away; it becomes "organised and consolidated" in the individual consciousness.

But conduct—human conduct at least—has also a subjective side; the adjustment of acts to ends is, or may be, conscious. In describing this inner side of conduct, Mr. Spencer professes to trace "the genesis of the moral consciousness". Its "essential trait" he finds to be "the control of some feeling or feelings by some other feeling or feelings"; and "the general truth disclosed by the study of evolving conduct, sub-human and human," is that, "for the better preservation of life, the primitive, simple, presentative feelings must be controlled by the later-evolved, compound and representative feelings". Mr. Spencer mentions three controls of this kind—the political, the religious and the social. These do not, however, severally or together, "constitute the moral control, but are only preparatory to it—are controls within which the moral control evolves". "The restraints properly distinguished as moral are unlike those restraints out of which they evolve, and with which they are long confounded, in this—they refer not to the extrinsic effects of actions, but to their intrinsic effects. The truly moral deterrent is . . . constituted . . . by a representation of the necessary natural results."

Thus arises "the feeling of moral obligation," "the sentiment of duty". "It is an abstract sentiment generated in a manner analogous to that in which abstract ideas are generated." On reflection, we observe that the common characteristic of the feelings which prompt to "good" conduct is that "they are all complex, re-representative feelings, occupied with the future rather than the present. The idea of authoritativeness has, therefore, come to be connected with feelings having these traits." There is, however, another element in the "abstract consciousness of duty," *viz.*, "the element of coerciveness". This Mr. Spencer derives from the various forms of pre-moral restraint just mentioned. But, since the constant tendency of conduct is to free itself from these restraints, and to become self-dependent and truly "moral," "the sense of duty or moral obligation [*i.e.*, as coercive] is transitory, and will diminish as fast as moralisation increases. . . . While at first the motive contains an element of coercion, at last this element of coercion dies out, and the act is performed without any consciousness of being obliged to perform it;" and thus

"the doing of work, originally under the consciousness that it *ought* to be done, may eventually cease to have any such accompanying consciousness," and the right action will be done "with a simple feeling of satisfaction in doing it". Since the consciousness of obligation arises from the incomplete adaptation of the individual to the social conditions of his life, "with complete adaptation to the social state, that element in the moral conciousness which is expressed by the word obligation will disappear. The higher actions required for the harmonious carrying on of life will be as much matters of course as are those lower actions which the simple desires prompt. In their proper times and places and proportions, the moral sentiments will guide men just as spontaneously and adequately as now do the sensations."

The conflict between the interests of society and those of the individual, which is the source of the feeling of Obligation as coercive, is not absolute and permanent. A "conciliation" of these interests is possible. Egoism and Altruism both have their rights; we cannot, with Darwin, merge the former in the latter. Egoism, indeed, is the first necessity of life. Since "a creature must live before it can act," it follows that "the acts by which each maintains his own life must, speaking generally, precede in imperativeness all other acts of which he is capable". So also when we regard conduct on its social side, we find that "the acts required for continued self-preservation, including the enjoyment of benefits achieved by such acts, are the first requisites to universal welfare". There is, in short, a "permanent supremacy of egoism over altruism," and "a rational altruism requires insistence on that egoism". On the other hand, "from the dawn of life, altruism has been no less essential than egoism. Though primarily it is dependent on egoism, yet secondarily egoism is dependent on it." When we study the history of evolving life, we find that "self-sacrifice is no less primordial than self-preservation," and that, throughout, "altruism has been evolving simultaneously with egoism". "From the dawn of life egoism has been dependent upon altruism, as altruism has been dependent upon egoism; and in the course of evolution the reciprocal services of the two have been increasing."

Thus "pure egoism and pure altruism are both illegitimate"; and "in the progressing ideas and usages of mankind" a "compromise between egoism and altruism has been slowly establishing itself". Nay, a "conciliation has been, and is, taking place between the interests of each citizen and the interests of citizens at large; tending ever

towards a state in which the two become merged in one, and in which the feelings answering to them respectively fall into complete concord". Thus "altruism of a social kind . . . may be expected to attain a level at which it will be like parental altruism in spontaneity—a level such that ministration to others' happiness will become a daily need". This consummation will be brought about by the same agency which has effected the present partial conciliation, *viz.*, sympathy, "which must advance as fast as conditions permit". During the earlier stages of the evolution sympathy is largely painful, on account of the existence of "much non-adaptation and much consequent unhappiness". "Gradually, then, and only gradually, as these various causes of unhappiness become less, can sympathy become greater. . . . But as the moulding and re-moulding of man and society into mutual fitness progresses, and as the pains caused by unfitness decrease, sympathy can increase in presence of the pleasures that come from fitness. The two changes are, indeed, so related that each furthers the other." And the goal of evolution can only be perfect identity of interests, and the consciousness of that identity.

Mr. Leslie Stephen, the latest authoritative exponent of the Ethics of Evolution, institutes, in his *Science of Ethics*, a really independent inquiry; while agreeing partly with Darwin and partly with Mr. Spencer, he resumes their task, and seeks, unhampered by their *dicta*, "to lay down an ethical doctrine in harmony with the doctrine of evolution". Following Darwin in his insistence upon Altruism as the ground-form of morality, and upon Sympathy as a primary animal instinct, he agrees with Mr. Spencer in giving a hedonistic interpretation of "Welfare," the end of the evolution, and accordingly, in offering, as the ethical deduction from the Evolution-theory, a "re-statement or re-construction" of Utilitarianism. Mr. Stephen's theory is further interesting as pressing to its logical issues the biological view of morality implied in the theories of both his predecessors, and also as recognising and facing, with great candour, the difficulties of that view.

The foundation upon which Mr. Stephen would base his reconstruction of Utilitarianism is a deeper view of society and of its relation to the individual. The old Utilitarianism conceived society as a mere "aggregate" of individuals. The utilitarian was still an "individualist," though he spoke of "the greatest number" of individuals; the individual was still his unit. Now, according to Mr. Stephen, the true

unit is not the individual, but society, which is not a mere "aggregate" of individuals, but an "organism," of which the individual is a member. "Society may be regarded as an organism, implying . . . a social tissue, modified in various ways so as to form the organs adapted to various specific purposes." Further, the social organism and the underlying social tissue are to be regarded as evolving. The social tissue is being gradually modified so as to form organs ever more perfectly adapted to fulfil the various functions of the organism as a whole; and the goal of the movement is the evolution of the social "type"—that is, of that form of society which represents "maximum efficiency" of the given means to the given end of social life. In short, we may say that the problem which is receiving its gradual solution in the evolution of society, is the production of a "social tissue," or fundamental structure, the most "vitally efficient".

In describing the ethical end, therefore, we must substitute for "the greatest happiness of the greatest number" of individuals, the "health" of the social organism, or, still more accurately, of the social tissue. The true "utility" is not the external utility of consequences. Life is not "a series of detached acts, in each of which a man can calculate the sum of happiness or misery attainable by different courses". It is an organic growth; and the results of any given action are fully appreciated only when the action is regarded, not as affecting its temporary "state," but as entering into and modifying the very substance of its fundamental structure. The "scientific criterion," therefore, is not Happiness, but Health. "We obtain unity of principle when we consider, not the various external relations but, the internal condition of the organism. . . . We only get a tenable and simple law when we start from the structure, which is itself a unit."

At the same time, the two criteria—health and happiness—"are not really divergent; on the contrary, they necessarily tend to coincide". The general correlation of the painful and the pernicious, the pleasurable and the beneficial, is obvious. "'The useful,' in the sense of *pleasure-giving*, must approximately coincide with the 'useful' in the sense of *life-preserving*. . . . We must suppose that pain and pleasure are the correlatives of certain states which may be roughly regarded as the smooth and the distracted working of the physical machinery, and that, given those states, the sensations must always be present." And in the evolution of society we can trace the gradual approximation to coincidence of these two senses of "utility".

Objectively considered, then, moral laws may be identified with the conditions of social vitality, and morality may be called "the sum of the preservative instincts of a society". That these laws should be perceived with increasing clearness as the evolution proceeds, is also a corollary of the Evolution-theory; as the social type is gradually elaborated, the conditions of its realisation will be more clearly perceived. But morality has also a strictly subjective side, which is yet to be considered. Corresponding to social welfare or health—the objective end—there is, in the member of society, a social instinct or sympathy, with that welfare or health for its object. The old opposition between the individual and society is fundamentally erroneous, depending as it does upon the inadequate mechanical conception of society already referred to. Nor is the identification of individual and social interests in the mind of the member of society the result of mere Association. "The difference between the sympathetic and the non-sympathetic feelings is a difference in their law or in the fundamental axiom which they embody." "The sympathetic being becomes, in virtue of his sympathies, a constituent part of a larger organisation. He is no more intelligible by himself alone than the limb is in all its properties intelligible without reference to the body." Just as "we can only obtain the law of the action of the several limbs" when we take the whole body into account, so with the feelings of "the being who has become part of the social organism. . . . Though feelings of the individual, their law can only be determined by reference to the general social conditions." Social sympathy is therefore a primary and direct instinct, not a secondary and indirect result of association. As a member of society, and not a mere individual, man cannot but be sympathetic. "To be reasonable, he must be sympathetic;" without sympathy he cannot "develop as a reasonable agent". The growth of society implies as its correlate "the growth of a certain body of sentiment" in its members; and, in accordance with the law of natural selection, this instinct, as pre-eminently useful to the social organism, will be developed—at once extended and enlightened. "Every extension of reasoning power implies a wider and closer identification of self with others, and therefore a greater tendency to merge the prudential in the social axiom as a first principle of conduct."

Thus what is generated in the course of Evolution is not merely a type of conduct, but a "type of character"—not merely altruistic conduct, but "the elaboration and regula-

tion of the sympathetic character which takes place through the social factor". We can trace the gradual progress from the external to the internal form of morality; from the law "Do this" to the law "Be this". Moral progress may be regarded as a "process of generalisation . . . a vast induction carried on by the race as organised in society," resulting in the discovery that "the most general rules of conduct must be expressed in terms of character"; accordingly we see how approval of a certain type of conduct "develops into approval of a certain type of character, the existence of which fits the individual for membership of a thoroughly efficient and healthy social tissue". This, according to Mr. Stephen, is the true account of Conscience, which is not a "separate faculty," "an instinct co-ordinate with other instincts," but "a function of the whole character . . . a mode of reaction of the whole character". "Moral approval is the name of the sentiment developed through the social medium, which modifies a man's character in such a way as to fit him to be an efficient member of the social tissue. It is the spiritual pressure which generates and maintains morality;" the representative and spokesman of morality in the individual consciousness. "The conscience is the utterance of the public spirit of the race, ordering us to obey the primary conditions of its welfare."

Here, also, Mr. Stephen finds the true basis of Obligation, which is to be conceived as coercion not from without but from within. So far as a man "can properly be called virtuous, it is because the outward has become an inward law; it is no longer a law in the juridical but in the scientific sense; it is not a rule enforced by external sanctions, but the 'law' of his character, or the formula which expresses the way in which he spontaneously acts. Society does not force him to act against his will; it has annexed and conquered his will itself." He is obliged by, because he shares, "the organised opinions of the society to which he belongs".

So far Mr. Stephen's theory might seem, in the main, a development of Mr. Spencer's; but he does not see his way to assent to Mr. Spencer's absolute Optimism. Morality, he finds, is unconditionally "useful," *i.e.*, conducive to the welfare or health of society, but "not to the individual". Thus "difficulty arises when we change our point of view from society to the individual. . . . Virtue is a condition of social welfare; but why should I be virtuous?" This question, Mr. Stephen thinks, is one which cannot be answered.

His point of view, we must remember, is that of Hedonism; and regarding the problem from that point of view, he pronounces it "intrinsically insoluble". "The attempt to establish an absolute coincidence between virtue and happiness is in ethics what the attempting to square the circle or to discover perpetual motion is in geometry and mechanics." Instead, therefore, of constructing a future Utopian society, in which virtue and happiness will perfectly coincide in individual as well as in social experience, he "thinks it better frankly to abandon the hopeless endeavour".

Comparing the three theories just sketched, we must distinguish between that of Darwin, on the one hand, as alone the legitimate and simple deduction from the theory of Evolution, and those of Mr. Spencer and Mr. Stephen, on the other, as attempts to find in the doctrine of Evolution a new and scientific basis for Utilitarianism. As an ethical theory, indeed, Darwin's is a mere fragment, but it is so just because its author refuses to speak beyond his record. So far as it goes, it is the outcome of a fair and unbiased endeavour to account for the phenomena of moral life, as for all other phenomena, on the hypothesis of Evolution. On that hypothesis, the ethical End may be described as "the general good" or "welfare"; and this, again, "may be defined as the rearing of the greatest number of individuals in full vigour and health, with all their faculties perfect, under the conditions to which they are subjected"; or, in the words of Mr. Spencer, as "the greatest totality of life in self, in offspring and in fellow-men". In other words, the ethical End is simply the attainment of the maximum of life, alike in length and breadth. The point of view of Evolution is that of *existence;* and if the Evolutionist is entitled to say that the "*fittest*" must survive, he can only mean the fittest for the life-struggle, or the fittest to *exist*. Mere "survival" in the universal struggle for existence is the motive and end of Evolution.

But, as Prof. Sidgwick says (MIND i. 59) "the doctrine that resolves all virtues and excellences into the comprehensive virtue 'of going on, and still to be,' can hardly find acceptance". In order to an ethical theory, we must distinguish εὖ ζῆν from ζῆν, "desirable" life from mere existence. Darwin himself introduces this further consideration in characterising the end as "Good" or "Welfare". Hence we are compelled to ask—What constitutes life desirable? This additional, and properly ethical question, suggested but not discussed by Darwin, is explicitly raised by Mr. Spencer

and Mr. Stephen; and the answer which readily occurs to both is the old answer of Hedonism—Life is good or desirable in so far as it is pleasant. Darwin's "General Good or Welfare" is interpreted as "General Happiness"; and the result is the new or Evolutional Utilitarianism.

Taken as a "re-statement of Utilitarianism," this position is an indefinite advance on older statements of the theory. Its view is directed to the inner character and motive, not to mere external consequences. Its method is deductive, not merely inductive. It regards society as an organic unity, and not as a mere aggregate of individuals. By the application of the theory of heredity, it even offers a ground of reconciliation between Utilitarianism and Intuitionism. But what concerns us here is not the merit of the new Utilitarianism as compared with the old, but the legitimacy of Evolutional Utilitarianism as such. We have to ask whether the theory of Evolution affords a secure foundation for this superstructure, whether the physical theory of Evolution and the ethical theory of Utilitarianism are essentially akin,—the one being the logical corollary of the other,—or whether they are only artificially brought together.

Life, it is said, means Happiness, and the evolution of life means increase of happiness; preservative actions being necessarily pleasurable, and pernicious actions necessarily painful, the evolutional and the hedonistic tests obviously coincide. Now, in order to the legitimacy of such an affiliation of Hedonism and Evolutionism, two points must be proved: first, that life is essentially desirable in respect of the happiness it yields, or that life-preserving and pleasure-giving actions coincide—the general theorem of Optimism; and, secondly, that increase of life is synonymous with increase of happiness, or that the tendency of Evolution is optimistic. Of neither of these positions is clear proof offered. This has been so clearly and forcibly brought out by Prof. Sorley in his *Ethics of Naturalism* (chap. vii., on "Hedonism and Evolutionism") that it is unnecessary to dwell upon it at length.

With reference to the former point, Mr. Spencer contents himself, in the main, with mere assumption, and scornful denunciation of the thorough-going pessimist; and, for the rest, constructs a Utopia in which the happiness of the individual and the interests of society will perfectly coincide. Mr. Stephen, on the other hand, acknowledges a permanent conflict between the two. "The path of duty does not coincide with the path of happiness. . . . By acting rightly, I admit, even the virtuous man will sometimes be making a

sacrifice ;" it is "necessary for a man to acquire certain instincts, amongst them the altruistic instincts, which fit him for the general conditions of life, though, in particular cases, they may cause him to be more miserable than if he were without them". And even Mr. Spencer acknowledges "a deep and involved"—though not a permanent—"derangement of the natural connexions between pleasures and beneficial actions, and between pains and detrimental actions".

But, it is contended, such a statement will not be "conclusive for the virtuous man. His own happiness is not his sole ultimate aim ; and the clearest proof that a given action will not contribute to it will, therefore, not deter him from the action." The individual, as a member of the social organism, forgets his own welfare or happiness in that of society. From the hedonistic point of view, however, we cannot thus merge the individual in society. We must not be misled by the metaphor of the "social organism,"—for it is only a metaphor after all, and a metaphor, as Mr. Stephen fears, "too vague to bear much argumentative stress". As Prof. Sidgwick remarks, it is not the organism, but "the individual, after all, that feels pleasure and pain". It is true that "the development of the society implies the development of certain moral instincts in the individual, or that the individual must be so constituted as to be capable of identifying himself with the society, and of finding his pleasure and pain in conduct which is socially beneficial or pernicious". Yet the individual can never wholly identify himself with the society, simply because he remains, to the last, an individual. It is said that the antagonism of individual and social interests is incidental to the transition-stages of the evolution, and that with the development of sympathy and the perfect adaptation of the individual to his social environment, complete identity of interests will be brought about. But, so long as the interest is merely that of pleasure, perfect identity of interests is impossible. The metaphor of the "social organism" is here particularly misleading. As Prof. Sorley remarks, "the feeling of pleasure is just the point where individualism is strongest, and in regard to which mankind, instead of being an organism in which each part but subserves the purposes of the whole, must rather be regarded as a collection of competing and co-operating units". From the point of view of pleasure, society is not an organism but an aggregate of individuals ; and, if we speak of the "health" of the society, we cannot mean *its* happiness, but simply the general conditions of the happiness

of its individual members. As Mr. Stephen acknowledges, there is a permanent dualism between the "prudential" and the "social" rules of life, "corresponding to the distinction of the qualities which are primarily useful to the individual and those which are primarily useful to the society". The former code cannot be incorporated in the latter.

On the whole, therefore, while we admit the general correlation between pleasurable and preservative, painful and pernicious actions, as well as the general harmony of the well-being of the race with that of the individual, we must conclude, with Prof. Sidgwick (MIND i. 65), that "this double harmony between pleasant and preservative, and between individual and universal well-being, is ideal and future; that it does not represent accurately the present, and still less the past, experience of the human race"; and, accordingly, that the claim to "scientific" character based upon it by Evolutional Utilitarianism has not been made out.

This brings us to the second point in the proof of Evolutional Hedonism, *viz.*, that the tendency of Evolution is optimistic. Now, although the tendency of evolution is towards a more and more complete correlation of "painful and pernicious, pleasurable and beneficial," on the one hand, and of the happiness of each with that of all, on the other; yet, looking at the facts of progressive morality, we must admit that moral progress is not synonymous with increase of happiness. For here, as in the former case, it is to be noted that happiness is a matter of individual experience; and in so far as the individual suffers by the general evolution, the hypothesis of Hedonism is disallowed. A candid regard for the facts of evolving morality will lead us to agree with the cautious conclusion of Mr. Stephen rather than with the unqualified optimism of Mr. Spencer. "I see no reason to suppose," says Mr. Stephen, "that pain will be eliminated, or that it will be so distributed that there shall never be a divergence between the painful and the pernicious, either to man or society. From the scientific point of view, we may hold that evolution implies progress—progress, at any rate, to a point beyond our present achievements; and, further, progress implies a solution of many discords, and an extirpation of many evils; but I can, at least, see no reason for supposing that it implies an extirpation of evil in general, or the definitive substitution of harmony for discord".

Such a recognition of a moral pain implied in moral progress—forced upon us by the facts of the case—necessitates

our giving up the hedonistic position, and our advancing to another, more adequate to the actual nature of morality. If "virtue may be painful and vice pleasant," pleasure is not the ultimate in moral life; pain may take its place in the moral development, and may even derive its significance from that advance which it renders possible. Nor does it follow, because the more highly-evolved state is, on the whole, the more pleasant, that its pleasantness constitutes its entire or essential character as the more highly evolved, or that "the actual progress in morality is always determined at every point by utilitarian considerations"; and unless this is made out, we must once more demur to the conclusion of Evolutional Utilitarianism.

On the whole, then, we seem compelled to conclude, with Darwin, that an impartial study of the evolution of morality does not corroborate the hedonistic interpretation. While we must recognise a hedonistic element in morality and in its evolution, we cannot admit that Hedonism, even in its evolutional or "scientific" form, is a final and adequate account of morality. After we have accepted the Evolution-theory as a true account of the history of life, it remains to ask — How shall we interpret "life"; how determine "progress" or "improvement"; how define the "tendency" of the evolution? These questions cannot be answered by an off-hand identification of "life" with "happiness," and of "improvement" with "increase of happiness"; whatever hypothesis is adopted must be verified by careful comparison with the facts. They are questions to which the Evolution-theory itself does not supply an answer. To take the first, "social vitality" is said to be the End of evolution. But what is the true or typical "life" of society, or rather of man as a member of society? Merely to say that "life" is the End, and that "life-preserving" conduct is moral, is to leave the properly ethical question untouched. We must still ask, What *kind* of life is it which is to be preserved—which is worth preserving? Mr. Stephen's answer to the same question—that the moral standard is "social health"—is equally unavailing. Taken metaphorically, it is an obvious tautology. For "healthy" simply means "normal"; and we must still ask, Who is the healthy man; what is the norm or standard of life? If, on the other hand, we press the literal meaning of the term, its inadequacy at once appears. Intemperance is *not* "proved to be immoral by the same methods which prove it to be unwholesome". Thus the old central question of ethics—

that of the "standard of life"—remains unanswered. Evolution, in short, is silent on the proper questions of ethics; and Evolutional Utilitarianism, far from being the result of an impartial study of the evolution of morality, is an ethical theory read into the evolution. The affiliation of the Utilitarian theory with the doctrine of Evolution would be an obvious advantage to the former, as providing it with a "scientific" basis; but I see not why a "rational" theory of morality is not at least as fully entitled to such advantage. The advantage is, however, in any case only apparent. The ethical theory, of whatever type, must in the end be judged on its own merits; the doctrine of Evolution can legitimately afford help to none. "Within the sphere of scientific thought," and particularly within the limits of the theory of Evolution, Darwin's is the only legitimate position. His only error is in offering it as an ethical theory. From the point of view of Evolution, that is, from the scientific point of view, all ethical theories are equally probable or improbable. The final interpretation of "Good" or "Welfare," that is, the determination of the ethical End, is beyond the scope of science. It is a philosophical question in regard to which, while his successors have made bold to speak, Darwin had the wisdom of silence.

Having thus narrowed the Evolution-theory of morals to its earliest or Darwinian form, and genuine developments of that by later writers, I will now seek to make good the above general criticism by examining shortly its answer to the three historical questions of ethics—the nature of the ethical End or Standard, of the "moral sense" or Conscience, and of Obligation.

(1) The ethical End or Standard is defined as "social welfare"; but, as society can be said to "live" only in the life of its individual members, social welfare is ultimately reducible to personal welfare—the welfare of the individual members of society. Now, we have already seen that, in order to an ethical theory, we must not regard the mere quantity, but also the quality, of the "life" which forms the moral end; we must ask, What is the *kind* of life, fitness to preserve and develop which constitutes the title to survival? And as soon as this question is raised, we see that the kind of life which is ultimately worthy of survival is not mere physical life, nor yet the life of mere sentiency, but self-conscious life. It is *this* life that, from the first, asserts its supreme claim; it is this, in all the breadth and depth of its rich content, that guides and moulds the course of the evolu-

tion from first to last; and it is in terms of this alone that moral progress can be understood.

From the very nature of the case, therefore, a theory of physical Evolution can offer no contribution to the determination of the ethical End. Moral distinctions are incapable of being reduced to physical. They are essentially spiritual—distinctions within self-consciousness; to a life without this they cannot apply, and from such a life the moral life cannot be developed. Hence the obvious inadequacy of terms borrowed from physical life, like "organism," "tissue," &c., when used to characterise moral life. Moral welfare may indeed contain physical elements; and the moral evolution may, in concrete fact, be inseparably bound up with the physical. Further, physical life is the first necessity; a man—or a society of men—must *live*, that they may live well or morally. This, the mere ground or "raw material" of moral life, is all that the theory of physical Evolution contemplates. Moral welfare cannot at any stage be identified with physical welfare, or constituted by physical elements. Still less can the moral evolve from the physical; if morality is to evolve, the evolution must from the first be moral, and not merely physical. The higher cannot be explained by the lower—the moral by the non-moral, morality being simply "that form which universal conduct assumes during the last stages of its evolution". In any experience from which morality, as we know it, has evolved, there must have been already present a moral and an immoral. As the evolution of physical life implies a germ of life at the first, so the moral evolution implies a moral germ. The earlier forms of moral, as of physical, life are potentially the later; and the lower must, in either case, be interpreted in terms of the higher—must find in it their explanation—not *vice versâ*. In other words, the moral evolution implies moral factors, as the organic evolution implies organic factors. Moral progress implies a moral, and not a merely physical ideal, present and operative from the first, though only gradually, and not till the last fully, revealing itself.

(2) Corresponding to this account of the ethical End as social welfare is the evolutional theory of the "moral sense" or Conscience as "social sympathy". While this view of Sympathy, as primary and direct, is a great advance on those "development"-theories which regard it as the secondary and indirect result of Association, it is yet, as a theory of Conscience, open to the same criticism as the account of the End just considered. As moral cannot be identified with physical Welfare, nor evolved from it, so moral Sympathy

cannot be identified with, or evolved from, mere animal feeling or instinct. As the End is constituted by self-consciousness, and exists only for the self-conscious being, so the feeling which appropriates it, though it may contain a physical or animal element as its ground, is not a mere animal instinct, but an interest in persons. Here as elsewhere, the Evolution-theory does not account for "origins". Once there, Evolution by natural selection may explain the "persistence" of the "moral sense"; but its germ is necessarily presupposed, and even in germ it is, like its object, constituted by self-consciousness.

Further, the Evolution-theory is unable to explain that superiority of the social to the egoistic instincts, upon which it so strongly insists. As mere instincts, they are at once opposed to one another, and on the same level. Accordingly Evolutionism fails, as the old Utilitarianism failed, to bring home the social End to the individual. Its watchword is self-preservation—competition, each for himself, in the universal "struggle for existence". Perfect community or identity of interests is possible only when the common welfare is constituted not physically, but spiritually, that of each not excluding, but including, that of others; and appropriated not by mere physical instinct, but by that Self-consciousness which has constituted it. Hence the inadequacy, in this reference also, of terms borrowed from physical life. The claim of society upon the individual is not to be explained by the figure of the "social organism". Such a category is manifestly inadequate to express spiritual relations. The individual, as self-conscious, as a person, refuses to merge his proper individual life in that of society; the centre of his life is not without, but within. The unity or solidarity of the individual and society must be conceived spiritually, or so that the wider social life which he shares may not destroy, but only be focused and concentrated in the personal life of the individual. Self-sacrifice may have a certain place even in the physical evolution; but it is only as expressive of spiritual relations that we can fully understand the peculiar watchwords of moral, as distinguished from those of merely physical, life—the meaning of self-sacrifice, of losing our life that we may find it, of dying to self that we may live to God and our neighbour.

(3) In the treatment of Obligation, we have the great illustration of our contention that to offer Evolution as an explanation of morality is to eliminate its essential character. "Oughtness," since it cannot be evolved, must be explained away. Accordingly, we have seen that both Mr. Spencer

and Mr. Stephen agree with Darwin in maintaining that Obligation, in the accepted sense of the term, is only temporary, applying to the transition-stages in the evolution of morality, and destined to disappear with the completion of the process. Moral life is in its ideal, they hold, perfectly spontaneous, and is ever tending to become more entirely so. Moral "law" is thus reduced to "law" in the scientific sense; and human life is merged in the life of nature. Morality is simply the "law" of life—the line of its necessary development; what always and necessarily *is*, and ever more fully tends to be, not what *ought* to be, but never is. "Thou *shalt*," the Imperative of moral life, becomes unmeaning. "Thou *must*;" for thou canst not otherwise: it is the very law of thy life; otherwise, thou wilt not "survive". The moral necessity and the physical are one.

Once more we must insist on the impossibility of such a reduction of the moral to the physical. The conception of Duty or Obligation, present in moral life in some form from the first, must remain to the last. It is the very essence of morality; and moral progress, far from liberating man from a sense of obligation, only brings with it a deeper and larger view of duty and a more entire submission to it. While it is true, as Mr. Stephen points out, that moral progress means advance from an external to an internal form of law, and also a growing identification of the moral subject with that which he sees ever more clearly to be his true good, yet the notion of Duty can never wholly disappear. Its disappearance would mean either sinking to the level of the brutes or rising to the divine. To man the moral ideal must always present itself as law—"Thou shalt". As Kant says, to act without a sense of Duty or Obligation does not become our station in the moral universe. It is this characteristic of moral life that separates it for ever from the life of nature. Moral life cannot, as moral, become "spontaneous" or simply "natural". The goal of the physical evolution and that of the moral are not the same. A perfectly comfortable life, that is, a life in which the discomfort of imperfect adaptation to the conditions of life would no longer be felt, would not be a perfect moral life. Thus, as from the non-moral the moral was evolved, so into the non-moral it would ultimately disappear.

What, then, is the net-value of the doctrine of Evolution, as a contribution to ethical theory? It is claimed that it gives us a new view of morality, a new ethical method; that it provides Ethics for the first time with a "scientific" basis.

Of the value of the conception of Evolution, as correcting dogmatic and abstract views of morality, there can be no question. It gives concreteness to ethical theory, by insisting that it shall, before all things, be true to experience. And as a statement of moral experience, as a "natural history" of morality, it is an indefinite advance upon all previous efforts of the kind. But faithfulness to experience is not synonymous with empiricism, either in the moral or in the natural sphere. Moral experience does not, any more than experience in general, explain itself. Accordingly, although the Evolution-theory of morality may be true and valuable as a statement of moral experience, it cannot be said to touch the proper question of Ethics. Its limitations are common to it with all scientific theories. To quote the words of an eminent representative of science, Mr. G. J. Romanes, in the *Contemporary Review*, June, 1888:—"All that is done by the theory of natural selection, *or by any other possible theory of a scientific kind*, is to suggest, with more or less probability, a *modus operandi;* but who, or what, it may be that is ultimately concerned in the energising of the process is a question which natural science can never be in a position to answer". Thus limited, a "scientific" view of morality, as of all else, is possible. But, within these limits, an ethical theory is, from the standpoint of science, confessedly impossible. Here, as elsewhere, philosophy, accepting the "scientific" statement at its true worth, that is, as an orderly statement of the facts under investigation, raises its own further question as to the essential nature and explanation of these facts. The facts of moral life having been shown by science to be such, to have such a history, it remains for philosophy to ask, What is implied as their ultimate basis; how is this experience possible; what is the nature of the ideal which moral life, from first to last, is one unceasing effort to realise?

But we are asked by the advocates of the evolutional or historical method, How else can you discover the nature of the moral ideal than by investigating the historical facts of evolving moral life? And it is true that in a sense we may be said to gather the character of the ideal from the process of its realisation, that in the evolution of morality we may see the gradual manifestation of the moral ideal. But it is the ideal that explains the evolution, not *vice versâ*. As in evolution generally, so in the evolution of morality, it is the presence, at every stage of the process, of the End which is fully realised only with its completion, that affords the explanation of the evolution itself. Conduct is defined by

Mr. Spencer as "the adjustment of acts to ends"; and it is always the end that explains the adjustment. If, therefore, there be one final and supreme End, *it* will explain all lower adjustments, simple and complex, or the evolution of conduct as a whole. We cannot understand the moral evolution, any more than the natural, until we read in it a Purpose or End—a τέλος or final cause—immanent in the process of its realisation. Or rather, the moral End must, as Aristotle said, include all others; the moral must be the universal End.

Such a view is indeed implied in much of the language used by Evolutionists. Thus Mr. Spencer speaks of "right conduct" as the conduct of the "ideal" or "straight" man; while Mr. Stephen regards "actual morality" as approximating to a "type" or ideal, which he otherwise characterises as "that underlying code to which actual morality is an approximation," and the evolution of morality as a series of attempts, ever more successful, to solve the problem of the "type" not only of conduct, but of character—in other words, to realise the ideal of human nature. Now it is this Type or Ideal of moral life, of which experience only gives us the "hint," as it were, that the moralist has to investigate; and while experience may be his only teacher as to its actual content, he must view it in its true relation to that experience, as being, not its outcome and result but, its ground and presupposition.

And if the Evolution-theory teaches us to regard human conduct and character, not as standing apart from the rest of the universe, but as sharing in one universal movement, and to regard the end of evolution in general and the end of human life as reciprocally inclusive and not as reciprocally exclusive; it does not teach us that human life is a mere term in the process of nature. It is true, man does not live a separate and independent life. His conduct, even his character, of which his conduct is the expression, take their place among the evolving phenomena of the universe. But moral life refuses to be identified with the life of nature, or to be interpreted in its terms. As a moral agent, man is not under the necessity of nature. Freedom or Will-power—a notion which natural science cannot recognise—is a notion at the very basis of ethical life; and it implies a different attitude in man to the universal course of things, and necessitates a different interpretation of Evolution as applied to human conduct and character. Self-conscious evolution is essentially different from unconscious evolution, and the former cannot be stated in terms of the latter. While all lower

life evolves by strict unconscious necessity, man, as self-conscious, is free from its dominion, and has the power consciously to help on, or consciously to hinder, the evolution. Hence it is that we are at once conscious of the inadequacy of such categories as "adaptation to environment," "survival of the fittest," &c., as applied to moral life. They may find a certain application to its facts, but their value is rather as illustrations than as explanations; they are only imperfect analogies drawn from a lower plane of existence. For moral life, while it contains physical and sentient elements, is in its essence self-conscious or spiritual, and is to be determined, not by natural or biological but, by spiritual categories. This is not to say that the theory of Evolution is to be abandoned when we approach the consideration of moral life, but only that here, as, indeed, ultimately everywhere, the evolution must be conceived, not naturally or empirically but, spiritually or rationally.

As to the ethical End, we have already seen that the theory of Evolution has no necessary logical connexion with Hedonism. What a fair interpretation of evolution suggests as the End is not Welfare in the sense of Well-*being* or happiness, but rather Welfare in the Aristotelian sense of Well-*doing* or Well-*living*; not a state, but an activity, a life, due fulfilment of all the functions which together constitute man's "life". And the proper life of man must be determined by his proper or peculiar function; *his* life is not that which he shares with the lower animals—a merely physical or sentient life—but that which is peculiarly his own, the life of reason, the realisation of his proper, which is his rational, self. This is the "type" of life which is ever seeking realisation, which alone is worthy of preservation and development; and only by recognition of it as the goal can we understand the evolution of morality. If, even in the case of unconscious life, the ultimate reference must be to the so-called "self" or organism rather than to the environment, which apart from the organism has no significance; it is still more obviously so with self-conscious or spiritual life. Even Darwin's "strongest" and "most persistent" impulse or instinct is not the ultimate here. Beneath all stimuli from without and impulses from within, what "persists" and demands realisation is the rational total Self; and in the persistent urgency of its demand is to be found the secret of moral progress, whether of the individual or of the race.

III.—ON SOME KINDS OF NECESSARY TRUTH. (I.)

By Leslie Stephen.

When we speak of an event as necessary we properly refer to the limitation of a supposed possibility by some independent condition. A man's death is necessary when he is placed on the guillotine and the axe allowed to fall, because we introduce a condition not already given by 'man'. The guillotine is an accident relatively to man, and implies coercion or an external condition. But we extend the same phrase to cases in which the condition is not really independent; though not explicitly given. 'Death is necessary for all men' means that mortality is already implied in humanity; although the attributes explicitly stated do not include mortality. How we come to know this or to think that we know it is another question. Finally, if the condition is already explicitly given in the original statement, the 'necessity' coincides with an identity. It would be mere tautology to say 'man is human,' and quite needless to say that he is 'necessarily' human. In the last two cases the coercion vanishes, although the 'necessity' remains. In any case, then, the statement of necessity implies, first, the assumption that something exists, and next, that it is limited by some condition, which if entirely independent implies coercion, and if implicitly given in the existence of the thing itself implies only certainty, or 'self-coercion' if the phrase be not simply a solecism.

The same applies to what we call necessary truths. One truth may be limited by another, when the conclusion follows if both are supposed applicable. If circles have certain properties and straight lines certain other properties, points which are both in a given circle and a given straight line are limited by both conditions. But the necessary truth may be so related to the first truth that if one is true the other is true, as a point has certain properties from being in a given circle. Then we shall have a certainty which, as before, may become a mere identity if the second truth is involved in the first not only implicitly but explicitly.

Thus I should say that necessary truth always implies a postulate. Some statement is true (or is taken as true); therefore another which is precisely equivalent to it is true. Or it is only rational to say 'because' when it is an answer

to 'why?' If we say a thing is *because* it is, we are uttering a purely meaningless phrase. To every 'must' there is an 'if'. There is no such thing as a truth which is absolutely self-supported. To say that the 'existence' of anything *per se* is necessary, is meaningless. A thing is necessary if its conditions exist, or *vice versâ;* water implies hydrogen and oxygen in given proportions, and hydrogen and oxygen in the same proportions imply water; but the statement itself, 'there is water' or 'there are hydrogen and oxygen,' must always imply an independent or ultimate datum of experience. In the same way, no truth is necessary by itself, or except on the assumption that it is equivalent to a given truth. Taking this for granted, Mill seems to have inferred that there could be no such thing as a necessary truth. For he also supposed that the equivalence of two truths implied their explicit identity; or that if truths were necessary, they must always be nugatory. That is, we should only be able to say, '*if* A exists, then A exists' or 'A is A,' a proposition which certainly appears to be mere tautology.

The right conclusion seems to be different. Propositions abound in which the identity of import is consistent with a difference in form. In Algebra we, of course, gain nothing by a mere identity, $x = x$. Nor do we gain in one respect by any equation which turns out to be identical in the sense, that it is true for every value of x; as, for example, that $(x + a)^2 = x^2 + 2ax + a^2$. That statement tells us nothing as to the particular value of x, because it is true for every value of x. Yet, of course, substitutions of this kind, of the sum for the evolved series, are essential to all mathematical investigations. Whatever value of x will satisfy the equation in one form will satisfy it in the other; and it is precisely because this is so, and is supposed to be necessarily so, that the proceeding is valuable. For, though x is not more determined 'in itself,' that is, is subject to no new condition, by the new form it may be more easily determinable 'for us'. The whole aim of mathematical analysis is to discover such processes, by which our implicit knowledge may be converted into explicit knowledge. In other words, a proposition may be identical with another in so far as it states precisely the same truths, and yet it may differ in form so as indefinitely to increase our knowledge. On the other hand, it follows that no such conversion extends the sphere of our knowledge. If one term of the equation holds the other holds; but this tells us nothing as to the validity of the first statement, and, by its very nature, cannot enable us to get any further. It

only makes the assertion more convenient to handle; it does not enlarge or limit it. Since identity of import is compatible with difference of form, necessary truths may not always be nugatory; but the equivalence implies that no condition is stated by the dependent truth not already implied in the assumed truth, or that they must always be of the same order of generality.

It is not difficult to suggest cases in which the same may be said of various concrete statements. There is the familiar case of genealogy. If John is the father of Thomas, it is a 'necessary' consequence that Thomas is the son of John. The same relation is asserted in both cases, and one cannot be denied without denying the other. The only difference is in the order of thought. But we all know that, although the propositions are identical in import, they are by no means equivalent for purposes of reasoning. Sir Gilbert Pickering was the son of the sister of Dryden's father by the eldest brother of Dryden's mother's father. What relation was Dryden to Pickering? A moment's thought shows that they were both first cousins and first cousins once removed. But a moment's thought is necessary, and much more puzzling questions constantly occur. We have to put the relationships into parallel series, both following the same order. The links of the chain can be put together, and can only be put together in one order; but when they are presented to us in confusion we have to sort and arrange them. The necessity in these cases results, of course, from certain assumptions. We assume the relationship of parent and child to be unique; it does not, like master and servant, admit of degrees. We assume that everyone must have two and only two parents, and that the relationship cannot be reciprocal, but implies a series ascending and descending. The inference is necessary so long as these conditions are satisfied and no longer. Therefore, on the one hand, the truth would hold if we found (as we perhaps might) another set of relationships satisfying the same conditions and justifying precisely similar inferences. It can therefore, on the other hand, tell us nothing as to any other circumstances implied in this particular relationship, its physiological or moral peculiarities for example. And, of course, the truth of these assumptions is only known through inference.

I will mention one other case, which may suggest some analogies hereafter. Economists tell us that the value of anything in terms of another means the rate at which they exchange in the market. It follows necessarily that a gene-

ral rise or fall of values is impossible. A rise of A in terms of B is a fall of B in terms of A. Yet this almost identical proposition is constantly denied by implication. It is common to find this self-contradictory phenomenon assigned as a cause of commercial depression or activity. The confusion is connected with an invaluable logical artifice. We express all values in terms of money to facilitate the comparison of different values. Price, therefore, is a measure of comparative value, and is regarded as a measure of absolute value. Prices may rise or fall in general, and therefore we assume that value may rise or fall. There is now a single commodity (say) gold of which the price is necessarily constant, or rather of which price cannot be properly predicated; for an ounce of gold is of course worth, inasmuch as it is, an ounce of gold. Instead of the proposition that a general rise or fall of value is impossible, we have now the proposition that a change in the price of gold is impossible. Gold has an exceptional position, and this leads us to neglect or deny the fact that buying and selling are the same thing regarded from different sides; whence arises a whole crop of pestilent fallacies. Here, as in the previous case, we have a necessary truth involved in a set of empirical truths. What is true of the relation of value may be true of other cases than that of commercial exchange. And the general and necessary truth can tell us nothing by itself as to the particular case so far as it depends upon other truths. We cannot say, for example, in virtue of this truth, whether a rise or fall in prices is generally good or bad for trade, though we can exclude certain fallacies which are frequently introduced to confuse the subject.

I will not pursue further these remarks, which are perhaps sufficiently obvious. I merely wish to point out that where a relation exists capable of being contemplated from two sides we may arrive at statements one of which implies the other and yet does not make the other superfluous. Such a necessity may be admitted consistently with the admission that all truths are ultimately contingent. The necessity corresponds to the connexion between the links of the chain; but that connexion cannot determine the suspension of the chain itself. There must be some peg upon which it ultimately hangs different from its internal connexions. Given a truth, we may evolve from it another which is the same in a different form, or an indefinite number of others; but in all cases whatever we must ultimately get back to some postulate which does not depend upon such a connexion. When it is granted, the equivalent propositions are necessarily true;

but the equivalence cannot prove that either is true. The equivalence implies also that the dependent proposition can assert neither more nor less than the postulate, and therefore that it cannot enable us to distinguish between the various cases which are covered by the original postulate. It must be true of all the x's, not of this or that x in distinction from others.

The most interesting case is that of geometrical truths. If we ask, what in this case is the assumption upon which the necessity is founded, the obvious reply is that we assume space. We all believe, as a fact, in the existence of space in some sense; and we believe it because it seems to be directly given in our perceptions. But there is apparently no meaning in speaking of the existence of space as necessary. We cannot give any reason why it should exist, and there is no contradiction in supposing it to be annihilated. Space is in some way a postulate, or corresponds to a fact or facts only known by direct experience. We cannot regard it as something which depends upon conditions or involves conditions. Consequently, according to Mill, it was one of two simple existents of which we can only say, 'it is' or 'it is not'. But the difficulty occurs that in assuming space we have already assumed implicitly the whole complex system of propositions which are ultimately evolved as geometry. If we regard space as a kind of simple thing, incapable of any further analysis, we have not the germ of a system of relations. That germ exists when we have a single relation capable of being viewed in two ways, and therefore of giving rise to truths differing in form and identical in import. But here we have an ultimate simple atom instead of a possibly fertile germ. Mill, as it seems, tried to explain this by treating lines as things which, though incapable of further analysis, possessed properties determinable by experience. We could discover that two straight lines could not enclose a space by trying the experiment, though we could not discover it from the nature of a line itself. In doing this I think that he laid himself open to the attack so forcibly put by Prof. Green, that he had already assumed space when he spoke of a straight line, and consequently that the supposed construction of geometrical axioms was illusory. Without going over that argument, I fancy that everyone would be prepared to admit the failure of Mill's attempt, and to regret that he had not studied the theory of Kant, which would have opened his eyes to the weakness of his method.

I shall not attempt to criticise the theory of Kant; but I must indicate at least one difficulty which I feel in regard

to its application. I admit that the power of evolving the great system of geometrical truths from certain axioms implies the presence of an intellectual element which somehow binds together the intimations of sense, and gives the ultimate germinal principle of all subsequent deductions. This must 'somehow' enter at a period antecedent to the construction of the straight line, which we assume as ready-made. But what is the 'somehow'? If I am told that the mind is to the sensations as the mould to the matter, I am still in a difficulty. If the matter counts for something, we still have to trust to experience, for we cannot tell *a priori* what will be the relation between the two elements. If it counts for nothing, we are apparently forced to construct space out of logic, that is, from principles which are equally applicable to all other relations. The condition already noticed is not fulfilled, and geometry would be identical with logic. I am especially perplexed when, in this relation, the sensations are treated as mere transitory, fleeting, arbitrary entities, incapable of affording a satisfactory basis for any kind of knowledge whatever. If by the sensible we mean the residuum left in our experience after abstracting from it all that makes it coherent, it must be admitted that we have very unsatisfactory materials for any kind of construction. Yet we admit that all our knowledge of the external world somehow comes through the senses. If I could neither see, nor hear, nor feel, nor touch, my knowledge of external things would be very limited. And, moreover, every geometrical proposition does, in fact, make statements about the senses. Certain sensations make me aware of the presence of a sphere, and others of the presence of a cube. Therefore every statement about the properties of a cube or a sphere tells me something about my sensations. However fleeting and transitory they may be, they clearly conform in some way to necessary truths. Why, then, should it be impossible to evolve the truths from the sensations? Sensations, like everything else, must have their 'laws'. Why cannot the 'laws' be disentangled from the sensations instead of being imposed upon them from without? The difficulty, I think, is something of this kind. A straight line, a plane and an angle seem to be immediately recognised. By combining them in various ways all geometry is evolved. But if we try to exhibit the axioms from which we start in terms of pure sensation we do not come to simple elements, but to complicated and indefinite combinations of sensation. A concrete straight line does not correspond to a single distinct sensation, always present when it is present, but rather

to a group of sensations. We can define the sensations corresponding to a particular geometrical figure, but we cannot invert the process and isolating a given sensation say that it corresponds to a geometrical figure. Therefore, it is inferred that the intuition of space and particular modes of space is not a product of modes of feeling, but corresponds to an independent intellectual process which moulds the presented sensations. Can we suggest any other way in which the origin of the primitive axioms and conceptions can be explained, and regard the geometry as somehow evolved from the sensations themselves? That is the problem upon which I propose to say something.

I begin, however, with a few remarks upon other classes of so-called necessary truth. We have, first, the truths which may be called purely logical. They are such truths as might be evolved from a simple proposition irrespectively of its contents. When I say that a thing is, I deny that it is not; and so forth. Now, without going into any metaphysical or logical discussions as to the legitimacy of this mode of treating a simple assertion, I shall only say that, according to my view, it may be possible thus to evolve a number of what may be called necessary truths. It may be shown that very complex modes of affirmation or negation are equivalent to very simple ones. If, according to the ordinary rule, two negations make an affirmation, we might go on to say that an even number of negations make an affirmation and an odd number a negation; and so forth. But, on the other hand, however complex or elaborate might be the series thus evolved, they could not take us beyond our original statement. We should discover that a very roundabout assertion was an exact equivalent of a very simple assertion; and if in any case the roundabout form happened to be suggested by our reasoning or observation, the power of reducing it to the simpler form given by our formula might be very convenient. But we should blunder if we imagined that by any such process we could get to any knowledge not implicitly given in the original simple assertion, or add any strength to that assertion itself. *If* I know that a thing is, I can state that knowledge in a variety of ways; but the knowledge is not itself extended by being twisted into various shapes. If the statement that various forms are precisely equivalent is to be called a necessary truth, I have no particular objection; but this does not in the least help us to make a single true proposition, or to dispense with some primary starting-point. Nor do I

understand that as a fact the ingenuity of logicians has taken us to any very valuable conclusions of this kind.

We come to the first great system of necessary truths in Arithmetic. It is impossible to deny that these truths have at least the appearance of being necessary. The truth that twice two is four seems to belong to an altogether different class from the truth that crows are black or man mortal. Mill, indeed, made some show of an attempt to argue that even this was an 'empirical truth'; but I doubt whether he persuaded even himself, and his remarks need not be examined. Nobody, I believe, has yet tried to construct an imaginary arithmetic. I am content to believe that the truths are, in fact, 'necessary,' and I will only ask briefly what is the reason of this conviction.

What, in fact, is meant when we say that our old friend, $2+2=4$, is a necessary truth? We mean, I presume, that four things are also two pairs of things differently regarded. To say that there are four things and to say that there are two pairs of things is to make two propositions identical in import, though differing in form. We convince ourselves, again, that this is true by a simple reflection. In counting any set of four things I have counted every set of four things. I count a set of tickets or 'counters'. Regarding these as affixed to certain things or bundles of things, the proposition is equally true of the marks and of the things marked. The one condition required is that each of the marked sets should be apprehended as a distinct unit for the time of counting. This character will not be affected, therefore, by supposing them distinguishable in some other respect. If two wafers are red and two black, they are still four wafers, made of a pair of red and a pair of black. The additional mark does not affect their character as units. The whole number, therefore, may be divided into subordinate groups without affecting its number as a single group. The very name 2 seems to imply this; for it means that the things may be indifferently regarded as two units or as a single pair. And what is true in one case must be true in all, for the same set of pigeon-holes will still hold the same marks, and therefore give the number of the things marked. There are occasions when one has to call these reasons into consciousness. I remember a period of my life when I was greatly vexed by the difficulty of producing the same result by an upward and downward addition of a column of figures. I was tempted to think that the result might really be affected by changing the order. I could not dispel the

impression by experience, for experience tended distinctly to confirm my scepticism. I had to reflect that each number might be represented by a row of concrete sovereigns, and that if I counted right, that is, counted each sovereign once and only once, I had counted the very same things. The subordinate grouping could make no difference to the whole group. Assuming this general principle, and applying it systematically, we get all the rules of arithmetic and algebra. I may perhaps just observe that the case illustrates a principle sometimes overlooked. It is not the same thing to say that a statement is probably true and that it is probably necessary. It is sometimes suggested that the necessary truth shades off by degrees into the merely probable, because we are more certain that $2+2=4$ than that $99 \times 99 = 9801$. But we are equally certain in both cases that what is true once is true always, because we assume the things counted to remain unaltered, or to correspond to the same set of counters. Perhaps we should say that some infinitesimal degree of uncertainty attaches even to the simplest proposition, $2+2=4$; but we are equally sure that if it is true of one case it will be true of all. Further, I may remark that a numerical proposition, in virtue of its generality, fails also to tell us by itself anything more of the properties of the things counted. Since it is true of every case—of four horses, or four hippogriffs, or four syllogisms —it can give us by itself no property in which horses differ from syllogisms or hippogriffs. Since, on the other hand, it applies to every possible object of thought, it may lead to important truths when further qualities are added: Dugald Dalgetty regarded the rule for extracting the square root solely as a means for arranging a regiment. When the units are soldiers with known qualities, we can determine by numerical processes what is the best way of resisting a charge of cavalry. But any 'ideas'—immediate objects of the mind in thinking—may be equally counted, and only become real or unreal, objective or subjective, in virtue of some later determination. Whatever they tell us is consistent with any other determination whatever; and the necessity is limited by the simple assumption that the same units are taken as constituting the number. This is the 'if' which justifies the 'must'. Add the certain qualities, and as the object must still conform to the arithmetical truth, we may reach the most important truths; but these propositions are not deducible from the truths taken by themselves, but from the something else which is added in each particular case.

The difficulty really occurs when we get to the necessary truths of geometry, which appear to be in some sense true in the highest degree of the objective world and true of it alone; and which therefore seem, on some theories, to imply that we are in some mysterious way provided with a kind of knowledge which yet cannot be educed from our own experience. Assuming that we know something of the shape of outside things, independently of touching and feeling and seeing them, we infer that the knowledge is implanted in us which arises from a purely intellectual element, and that therefore we are justified in inferring that we possess other kinds of transcendental knowledge.

Before making any remarks about judgments of space, I will say something of the comparatively simple case of Time, which is so closely analogous, and seems to indicate a similar intellectual process.

I can say nothing whatever about the ultimate meaning of time any more than about the ultimate meaning of number. If anybody can in any intelligible sense 'explain' time I shall be glad to hear what he has to say; but I am content to admit my own utter inability even to understand how any explanation is possible. It is a fact that all events are regarded as occurring at certain points in a continuous series, and as having a certain definite duration. All that I wish to ask is, how from this vague impression of duration and succession of a 'before' and 'after' in time we come to conceive of pure time as something independent, uniform and measurable.

We regard any continuous events as synchronising or overlapping or separated by a definite time-interval. I wake (let us say) as the sun rises and go to sleep when it sets. My waking period coincides with the period of the sun's course above the horizon, or, if I sit up longer, overlaps it, and so forth. I can so far have an intelligible meaning in saying that of two processes one takes a longer or shorter time than another. When we compare two periods which do not even overlap we have apparently to take a further step. No two periods can be brought into actual contact. We must make some tacit reference at least to a common measure when we compare their lengths. What is the measure? What precisely do I mean when I say that to-day will be just as long as yesterday, or that the 31st December will be shorter than the 30th June?

I suppose that the first step must be the assumption of some concrete standard. We take for granted that a day is

a constant in time. We afterwards come to measure by months and years, which represent, in the first place, a certain series of definite changes in the position of the sun and moon, and also a constant number of days. This is natural, because a variety of functional changes in ourselves and in the various objects with which we are concerned synchronise with the changes in these periodical phenomena. We are our own clocks at an early stage. Our hunger tells us that the sun is high, our sleepiness that he is near setting, and so forth. Things, as a matter of fact, correspond in such a way that in a vast number of the phenomena which most excite our interest we do this or that, get up and lie down, eat and drink, go out hunting, or plough and sow at the time when the sun, moon and stars are at certain stages of a continuous periodical process.

So far the reference to time may be implicit only. We need not distinctly separate the event from the time in which it happens. I have assumed that a day, or rather a day and night, is a constant. (The variation in the length of the day might puzzle an Eskimo; but Paradise was nearer the equator). But why do I make this assumption, or rather what is it? It may be vaguely suggested by memory. On looking back to the past series, each day seems to represent an equal stage. The same series of sensations has occurred and has been divided into similar parts. Waking, hunger, sleep represent one series, and the other series is made up of the sensations which I interpret to signify the varying positions of the sun and the recurrence of harvest and winter. The two are so related that a definite set of changes in one corresponds to a definite set of changes in the other. From one, therefore, I can argue to the other. I am sleepy, the sun must be setting; or, the sun is setting, I shall go to sleep. But the coincidence is vague, inasmuch as it only represents a kind of average or normal coincidence, from which there are divergences in almost every particular case, and there are as yet no clocks or thermometers. In the next place, it seems to be so far a matter of indifference whether I take one of these series of sensations or another as the standard series; whether I hold that my appetite is more active or the sun slower in its movements. One represents a series of sensations of hunger and thirst, the other of light and heat. Why do I, or why did my remote ancestor, consider that the sun gave a better measure than his stomach, which was after all closer to him, and represented a more interesting set of feelings? And what is the nature of the supposed change in one series of

sensations which reconciles the conflicting inferences in these cases? Now it is, I dare say, easy to suggest some reasons why even a Robinson Crusoe should reckon rather by the sun than by his stomach. The various positions of the sun give a more definite and recognisable series of marks. 'The sun is touching that hill' is a more distinct statement than 'I am sleepy'. And many other events connected with the sun's position, the coming out of animals, and so forth, cause me in numerous actions to go rather by this measure than by the other. But as soon as Robinson Crusoe gets his man Friday, or, in other words, as soon as there is a society as well as an individual to be considered, this becomes not only convenient but indispensable. We combine operations, and must have a common measure. Crusoe and Friday must agree to meet, not when their stomachs are craving, for neither can tell the state of the other's stomach, but when the sun is on the horizon—an event which is common to both. We have therefore to fix upon a series which is represented in the external world. And as soon as we do this we have to make another assumption. We must regard it as an axiom that, if our experience coincides now and coincided at another fixed point, the interval has been the same for both. We parted and met; you have been reading *Ivanhoe* and I have been reading MIND. The time, therefore, must have been the same, although, judging from our sensations, it has seemed long to you and short to me. We say that time passes quickly in study. Literally taken, the phrase is a solecism. Time cannot pass quickly or slowly for precisely the same reason that gold cannot rise or sink in price. Time is the measure of quickness or slowness by its definition. Quickly or slowly mean quick or slow in respect of time. A train which passes over a mile in a minute is quicker than a snail which passes it in a month. But it is meaningless to say that a minute is itself longer or slower than another minute; for a minute means a fixed measure of time. What we mean is, of course, that our sensations suggest different inferences; that you, in the case supposed, would guess the clock or the sun to have moved through a larger arc than I should have supposed. So much is assumed when we have once got a common measure; when we have agreed to reckon time by one of these periodical series of changes—the movement of the sun in the heavens, for example, which is common to you and to me. This assumption is involved in the process by which an external world is constituted. We have now a series of

events supposed to take place independently of you and me, or to be necessarily the same for you and me, and we refer all other events to their position in this series. But, again, as we have thus brought ourselves into co-operation, we are now able and we are constantly compelled to make allowance for subjective error. If one set of sensations leads to an inference incompatible with that suggested by the other, we are forced to set one down as erroneous. From the point of view of the individual there is no necessity—though there may be some convenience—in uniformly preferring either or any series to the other. It is just as easy to say 'the sun is rising slowly' as to say 'my appetite is growing rapidly'. The necessity of choosing is implied in the adoption of a common measure. We must go by the sun which we both see, not by my stomach, which is imperceptible either to you or to me. And, moreover, when we have once agreed upon this, it must be observed that it is always possible, and therefore always necessary, to make the correction. Any correction, however great, can always be applied. Rip van Winkle, after his twenty years' sleep, or the dervish who imagined centuries to pass whilst his head was in a basin of water, could regain their places in the world as easily as I when I have nodded for an instant at a lecture, by simply assuming a personal error. They would be forced to do so by the necessity of conforming their experience to others, and they always could do so. It is not wonderful that we always have the same time, for we make our time by assuming it to be the common time; and we at once discard every apparently inconsistent experience simply because it is inconsistent.

But we have still a further step to make. We have assumed a common measure—the movement of the sun, for example; but how do we know that this measure is uniform, or what do we mean by asserting it to be uniform? We may guess in a general way that this common measure is uniform. One day seems to be the same length as another day. It is divided into definite parts by the position of the sun, and if it generally takes a day to walk so many miles, we may infer that one mile will be walked while the sun is describing a proportional part of his daily course. We have thus a kind of concrete time. We can say, that is, that things occur at certain times; meaning that they occur at certain definite points in an assumed standard series. But what do we mean by regarding this series as itself uniform, or by saying particular fractions of it take equal or proportional parts of time? There seems to be some reference to

time as separate from the events which take place in time. I remember, for example, a difficulty which perplexed me when I was trying to learn astronomy. It was constantly turning out that events which I had supposed to be regular were varying in respect of time. I comforted myself, however, by observing that the rotation of the earth seemed to conduct itself with a commendable regularity. So long as I could believe that 24 hours meant precisely the time in which the earth got itself exactly round, I was happy. I had a firm concrete measure to hold on by. At last I was told that this, too, changed slowly. I was, I confess, bewildered. It seemed as though there was no longer any real time at all. The answer to my difficulty was, I presume, that it makes no difference whether any given events should be exactly periodical so long as there is a definite time-relation. If the year 1888 differs by an assignable fraction from the year 1887, the statement is as intelligible as the statement that they are precisely equal. The series 100, 101, 102 will do as well as 100, 100, 100. But, still, how can we know of this relation? We cannot lay one year by the side of another; and if the time-standard is arbitrary, why should we not make the years equal as a captain of a ship makes it 12 o'clock? That would be a more convenient assumption. The answer is enforced by physical considerations. We know that the rate of the earth's rotation varies because we know that the tides must retard it. But how do we know this? It appears to me that this involves another postulate. It is virtually the assumption that two things may differ in respect of time alone. We have to define time as something by itself inoperative. The fall of a pendulum is taken always to occupy the same time. If all the conditions of the fall are identical, we assume that the rate of the fall will be also identical. If there is any absolutely uniform process, it may differ in respect of more or less duration whilst remaining otherwise absolutely unchanged. At any given moment of time it will be precisely identical with itself at any other given moment. If not affected from without, it will achieve the same results in the same successive periods. In order, therefore, to disengage the time-element, I must make the assumption of uniform action or conceive of processes as remaining identical through time. This is equivalent to defining a fixed period of time as that which will be occupied by an event identical with another throughout an equal period of time. Thus we reach a conception of abstract time which is only abstract in the sense that, though not

separated from all events, it is uniform for a perfectly uniform process.

This seems to be a postulate, because it cannot be in any way proved by experience. It is impossible to *prove* that similar events will always take the same time, because I cannot bring the two times together. I might show that two similar events, *e.g.*, dropping equal (or unequal) balls from a height will synchronise; but this might only prove that the variation of time (if time could vary) was the same for both; and, moreover, if we found that the events did not synchronise, we should at once infer that they were not precisely similar. If two bodies fell at different rates, we should explain it, I suppose, in the last resort, by assuming that the force of gravitation acted differently in respect of different places and bodies. We could not infer any specific difference in the time in which the two bodies fell. We should accuse our senses or suspect an error in our observations. And some such assumption in a latent form is no doubt implied from the first. As soon as we measure two events in respect of time, we assume that they are comparable in time alone. The precise formulæ are gradually rendered explicit in the effort to make our experience coherent. The only sense in which experience teaches us the truth, is that the whole system does in fact produce a body of organised and verifiable truth. If the conditions under which we were placed had been much more complex, and had presented us with no approximately uniform periods in concrete experience, we should have been proportionately slower in rendering our primary assumptions definite and distinct. The assumptions are forced upon us in the process of organising our experience; and the same process which enables us to conceive of time also enables us to bring out distinctly the conceptions of space and of the uniformity of nature. Thus, from the vague assumption that things may synchronise or overlap, we have the conception of time considered as the relation between two processes in this respect. Though we speak of 'time' as of 'value' by itself, we always imply a relation, though a relation between any two periods whatever. To enable ourselves to speak of this conveniently, we take a standard-series as we take gold to measure price. As soon as we share this conception with others, the standard-series must be part of the objective world; that is, a part of the series which is common to everyone. Finally, to regard this series as itself uniform, we have to make the assumption that time in itself can be so separated from events that precisely

similar events may occur at different times, and will then occupy equal periods. Each step of the process is forced upon us in trying to obtain consistency in our various impressions, and therefore a common measure of many relations. The only 'proof' of our correctness is the general harmony of our experience which results.

It only requires to be added that we do not thus arrive at any necessary truths peculiar to time-relations. All arithmetical truths are applicable to periods of time as to other things. Four years are two pairs of years, as four marbles are two pairs of marbles; because at any given instant of time I can somehow think of four parts or succeeding periods. The only necessary truth would seem to be the statement that time cannot run back. But as abstract time has no more existence than abstract value, always implying a comparison of two, though of any two, processes, this seems to come to no more than the statement that events cannot repeat themselves. This, however, is a merely empirical statement. If, as one of Marryat's characters maintained, everything runs in cycles, so that the captain will be threatening the coxswain 26,000 and odd years hence as he did 26,000 and odd years ago, it appears to me that it would be indifferent whether we asserted that time would recur or that the same events would recur. We cannot prove that they will not. But in any case we do not in time, as in geometry, to which we may now pass, get a new system of necessary truths.

(To be continued.)

IV.—RIEHL ON "PHILOSOPHICAL CRITICISM".[1]

By Prof. R. Adamson.

The rich Kantian literature of the last twenty years has produced no work of greater significance than Prof. A. Riehl's elaborate study of the Critical Method and application of it to questions of general philosophy. *Der philosophische Kriticismus*, mentioned but not before examined in Mind, is much more than a contribution to the better understanding of the Kantian philosophy. Though resting upon a careful and highly successful historical interpretation of the Kantian system, the work has importance for the most part as an attempt to apply the fundamental conception of the critical method, purified from all extraneous matter, to the general problems of the theory of knowledge in the first instance, and in the second instance to the concrete problems that have at all times formed the staple of metaphysical discussion. It would not be altogether inaccurate to say that the broad divisions into which this application of the critical method naturally falls correspond to the familiar rubrics of the Kantian *Kritik*. But the treatment is characterised by so much freshness and originality of conception, so comprehensive an insight into the relations of philosophical and scientific problems, and so close a reference to the general tenor of modern science, as to render it in no sense a mere re-presentation of the work already achieved by Kant.

In regard to the work generally, it is unnecessary to say more than that at all points the author exhibits completeness of knowledge and maturity of philosophical reflection. The work is that of a genuine thinker who has spared no effort to render it adequate to the far-reaching importance of the problems involved. But an expression of special thanks may be allowed for the great excellence of Prof. Riehl's style. He is everywhere lucid and intelligible, firm and precise in the use of terms, and a master in the art of condensed logical exposition. The matter he has to offer

[1] *Der philosophische Kriticismus und seine Bedeutung für die positive Wissenschaft:* Bd. i. "Geschichte u. Methode des philosophischen Kriticismus," 1876; Bd. ii. Th. 1, "Die sinnlichen u. logischen Grundlagen der Erkenntniss," 1879; Bd. ii. Th. 2, "Zur Wissenschaftstheorie u. Metaphysik," 1887. [For convenience, the last part shall be cited as vol. iii.] Leipzig: W. Engelmann.

may have its difficulties; the manner of presentation is invariably an aid rather than an obstacle to comprehension.

A work of so extensive a range as Prof. Riehl's, embracing in some form all the problems of theoretical philosophy, cannot in any critical survey be satisfactorily dealt with on all its sides. As its main significance may be thought to consist rather in the original treatment of general problems than in the historical review of pre-Kantian and Kantian philosophy on which the treatment is based, all that falls within vol. i. may meantime be dismissed with a general indication of its contents. The author, holding that philosophy is practically identical with theory of knowledge (a brief formula of which the work itself is the expanded interpretation and of which the full bearings will presently be noted), finds in Locke's *Essay* the first great contribution to the establishment of the critical method and its principles, in Hume an important though inadequate and one-sided development of the same, and in Kant, with much imperfection and some important defects, the matured consciousness of the nature and consequences of the method itself. Sufficient notice is at the same time extended to such minor preparations for the Critical Philosophy as may be thought to have influenced the final statement of it in Kant's work,—in Wolff, Lambert and Tetens. The interest of the historical review centres in Hume and Kant. Of the former, Prof. Riehl's account is one of the best and most thorough known to me. It is distinguished by its completeness and fairness, and, in particular, it devotes the attention and care the matter deserves to Hume's elaborate application of his fundamental principles to the criticism of mathematical science. The second part of the first book of the *Treatise* has experienced undeserved neglect at the hands of historians of philosophy, who have generally contented themselves with accepting as adequate representation of Hume's views on mathematics the brief, misleading and commonly misconceived expressions in the *Inquiry*. On some points in Prof. Riehl's interpretation of Hume on this matter there may be differences of opinion, not without importance in so fundamental a question; and it may be doubted whether, in the satisfaction of finding so much of the critical method in Hume, he has laid sufficient stress on the peculiar imperfections of the foundation on which Hume's doctrine rests; but such possible differences and doubts demand a longer historical statement than can here be accorded to them. In like manner, there must meantime be left aside any examination of the most important section of the historical

volume, that in which the essence of the critical method as conceived by Kant is formally expounded. What Prof. Riehl understands this essence to be will appear in the statement of his own views, which are developed from it: with what justice it is assigned to Kant, and what is the worth of the adverse criticism directed upon certain portions of the Kantian system, not in Prof. Riehl's judgment compatible with it, are questions deserving separate and detailed treatment. The rock of offence is found in Kant's mode of viewing things-in-themselves and noümena, a matter sufficiently fundamental not only for interpretation of Kant, but for philosophy at large; and, though it would be an inadequate representation of Prof. Riehl's view simply to class him with the many who have accepted the apparently negative results of the Kantian criticism of knowledge and rejected such positive addenda as Kant seemed to make in regard to these problematical entities, the reference may be allowed here as a provisional indication of the historical view taken by him. His view regarding the question itself will become sufficiently apparent in the statement of his theory of knowledge.

The proverbial danger that lurks in general statements perhaps nowhere more easily conceals itself than in those introductory expressions with which a philosophical investigator defines the point of view to be occupied by him and the problem he proposes to himself. Acute appreciation of the danger is no guarantee of success in avoidance of it; the historian of philosophy has to record the failure of many a well-intentioned effort to shake off all entanglements of presuppositions and to start from absolutely simple and unambiguous fact, failures due solely to the important yet readily ignored consideration that simple and unambiguous facts are not given with these desirable qualities, but have to be reached by the long and slippery path of reflective analysis. A standpoint, as the Germans phrase it, is not the beginning but the end of the journey; a problem well put is, in philosophy, much more than half the solution of it.

These precautionary remarks are by no means intended to convey any covert censure on the manner in which Prof. Riehl has performed the task of formally acquainting the reader with the general nature of the philosophic position occupied by him, with the conception he has formed of the nature and functions of philosophy, and with the relations in which his own method and aims stand to those of other thinkers, philosophic in the narrower sense or scientific. But they are intended to account in a general way

for the particular difficulty I experience in convincing myself that I thoroughly comprehend the author's drift in many of his introductory statements, and to form a general plea for exculpation if it should turn out that in some essential points I have failed to do justice to his meaning.

"Philosophy is the science and criticism of knowledge" (iii. 1). Its business is to unfold the essence of knowledge, to determine the significance of experience and science. Logic, which has also to do with knowledge, is for the most part descriptive, and is differentiated from philosophy by absence of that critical reference to the reality of knowledge which is fundamental and characteristic in philosophical analysis. Psychology is a branch of concrete or positive science, distinct from and related to philosophy in exactly the same general fashion as the positive sciences of nature.

Philosophy, then, is no new way of knowing objects; it increases in no respect the domain of ascertained facts which positive science, natural or mental, may bring before us. Philosophy is no *Weltanschauungslehre;* it has to follow science, and may be regarded as the self-consciousness of scientific thinking.[1]

The notion of knowledge, then, is the foundation on which the whole rests: with a definition or description of knowledge, it is natural that the work should begin. Accordingly, in the introductory chapter of the second volume, Prof. Riehl lays out his formal statement of the characters essential to knowledge and of the ultimate assumptions involved in the fact or act of knowing. The author is well aware that great part of such preliminary matter must await its full justification from later, more developed investigations into the contents of what is known. He evidently does not share the view that a theory of knowledge can be constructed without the aid of assumptions, or that by dint of mere meditation on the idea of knowing satisfactory insight into the problem of knowledge is to be attained.

Knowledge in the special sense, *Erkenntniss*, is characterised as *mediate*, *i.e.*, involving a movement of thought from one content apprehended to another—a movement even if the result be only a transformation of the initial content; as accompanied with consciousness of the process involved and with reflection; and as having the concomitant feeling

[1] Vol. iii., c. 1. I am not able to see the connexion between this view of theoretical philosophy and the brief account given (pp. 20-21) of practical philosophy. It appears to me that all the questions of practical *philosophy* there referred to belong to positive science, unless there be some ground of distinction in reserve which I do not apprehend.

of belief or conviction (ii. 1). It is in form a judgment (ii. 16).

It is evident that such a description of knowledge, though possibly useful for didactic purposes, involves notions so much more general than itself, and so far from being of settled and accepted significance, that it cannot be taken for the foundation of the superstructure. It is rather the expression of a final result which may be expected to emerge in the course of the discussion. Nor do the truly determining aspects of the problem of knowledge appear with sufficient explicitness in it. The notion of belief or conviction may be intended to cover the objective reference which is the peculiar mark of the content known; it can do so only if there has been previously such research into the nature and meaning of objectivity in knowledge, and the relation thereto of the inner process called *conviction*, as shall entitle us to use the notion with complete insight into its significance. It is rather in the explanations offered of the more general terms appearing in the definition of knowledge, of *consciousness*, *experience* and the like, briefly, in the various elements constituting what the author calls the standpoint of Critical Realism, that we are to look for the true foundation of his theory of knowledge. The point of view of Critical Realism is that assumed by the author; the main burden of his theory of knowledge is the explanation and justification of it. The barest statement of the point of view is surrounded with difficulties, and one can hardly hope to be quite successful in reproducing in words other than those of the author what seems to be its import.[1]

Experience is, briefly, the sum of all the effects produced by things on our consciousness. The world of consciousness, which is the world of experience, contains only phenomena, the appearances of things. Within that world arises, and is developed under conditions which we can trace, the important distinction of subjective and objective. But this distinction is not equivalent to that between consciousness and the independent reality of things. To be an object and to be an existing real thing are notions wholly distinct from one another. The first is explicable, and is only explicable in terms of consciousness; the second is explicable, and only explicable in terms implying independence of and difference from consciousness. It is impossible for us to work out consistently the hypothesis that the world of consciousness

[1] See ii. 2-22, iii. 28-39, 53-61, and generally the chapter on the reality of the external world, iii. 128-176.

is absolute, is the sum-total of reality. In the mass, and in all details, conscious experience exhibits itself as relative to and conditioned by the independent world of real existence.

Just by reason of this dependent, relative character of conscious experience does there arise the necessity for a theory of knowledge, for an attempt to determine systematically how far the connexions among the elements of consciousness can have assigned to them worth as means of apprehending the nature and relations of that which is. Conscious experience has its own general laws, a structure or form imposed upon it from its very nature, as always and throughout the experience of one thinking subject. The Kantian doctrine of the unity of experience, though perhaps susceptible of modifications in detail, and though certainly requiring a radical alteration as regards its interpretation, expresses, nevertheless, the deepest, most fundamental trait of consciousness. The notions by which we express in abstract fashion the ultimate conditions imposed on conscious experience by the unity and identity of the subject, need by no means have only that subjective validity allowed to them by Kant. They are more than ways in which the subjective activity organises its experience. Just as they express the ultimate forms of connexion among the elements which enter into knowledge, so they may be held at the same time to express the relations of real, extra-mental existence. For consciousness, with its ultimate nature, forms a part of the great whole of real existence, and it may be maintained that in its structure it exhibits the characteristics imposed upon it by its relation to the whole. Were there not an essential conformity between real relations and the ultimate forms of consciousness, the real could in no way enter into consciousness.[1]

The statement of the general point of view enables us to form a clear idea of the special lines which the detailed investigation has to follow, and at the same time brings sharply before us the nature of the problem involved throughout the whole treatment. Knowledge as a whole is to be analysed, not psychologically or in regard to the natural conditions of its growth, but logically or epistemologically, in regard to its significance as disclosing the relations of the ultimate reality. With this analysis the second volume is occupied. The results of that analysis fall then to be considered in their general aspect as metaphysical propositions, declaratory of the nature of the real, and there-

[1] See for this last extremely important point, ii. 23-4, iii. 319-20.

fore raising the old familiar questions of speculation. The treatment of these questions in the light of the analysis of knowledge occupies the third volume. Throughout there appears the problem, how we are to interpret the reference to reality which plays so significant a part in the theory of knowledge. The problem is certainly no new one—it is as old as speculative philosophy—but it is always of interest to follow the way in which a thinker, with new lights, with improved methods, approaches it.

The first important step towards Prof. Riehl's solution of this question is to be discerned in the chapter on Sensation, for I suppose that by the ambiguous English term *sensation* one must translate the equally ambiguous German *Empfindung*. Were the term *apprehension* recognised as of general import, as indicating only the attitude of the subject in having a more or less definite content before it, as implying, therefore, nothing in regard to the psychically simple or complex character of the act of apprehending, and as embracing a variety of species under it constituted by the differing conditions under which it comes about, *sense-apprehension* would be the more correct and more intelligible rendering for *Empfindung*. Rejecting the views regarding sensation of Condillac and Herbart on the one hand, and of Kant on the other, Prof. Riehl marks out for inquiry (*a*) the nature of the process of sensation, (*b*) the relation of sense-qualities to the character of the stimuli by which they arise, (*c*) the significance of sensations in building up the peculiar form of conscious experience, the antithesis of object and subject. In respect to the first point, his answer is that the process of sensation is essentially complex—complex in no fewer than three ways: (1) as involving factors distinct in psychical character; (2) as arising only through change, difference; and (3) as containing in the form of a judgment the primitive assertion of existence, real, extra-mental being.

Every sensation is a combination, an intimate union of two factors, the quality apprehended and the mode of feeling with which it is apprehended, a mode "standing in relation to the Intensity of the sensation, and dependent partly on the strength of the stimulation, partly on the strength of the psychical activity of apprehension". Every type of sensation unites these constituents; the union and its peculiarity are realised with greatest distinctness in the sensations of Movement, by which, I take it, Prof. Riehl means what is sometimes designated Active Touch. There "we have the sensations of tension and resistance only in proportion to our feelings of striving; and, conversely,

we become aware of these feelings only in relation to the sensuously apprehended resistance". With the utmost distinctness is exhibited in this mode of sensation the all-important opposition of the two constituent factors. In sensation, then, consciousness is not merely receptive, it is at the same time spontaneously active (*selbstthätig*), for Feeling is the reaction of consciousness on the qualitative contents of sense-presentations.

With much of this account of sense-apprehension I am in entire agreement, and shall only note in passing wherein I think it requires a more explicit statement in order to make its character unmistakable. I cannot make clear to myself what exactly Prof. Riehl includes under the term *Feeling*. "All actual sensation," he writes, "is at the same time *felt*; it never forms a wholly indifferent state or content of consciousness. We have thus a *feeling* of seeing which marks that off from the mere idea of seeing." Now the word "indifferent" which appears in the first of these sentences does not seem to me at all appropriate to express what is implied in the second, if I understand the second rightly. "Indifferent" applies strictly to the familiar rubrics of the pleasurable and painful, which psychologists have been accustomed to use as the comprehensive categories of feeling. But neither with pleasurable nor painful has the *feeling* of seeing or the feelings of the activity of accommodating the ear for sounds (another of Prof. Riehl's examples) anything in common. If Prof. Riehl means that feeling has a range and significance extending beyond the pleasurable and painful, as seems to be implied in the description of pleasure and pain as stronger degrees of feeling (p. 63), if he is serious with his generalisation of it as the "reaction of consciousness," a process I do not pretend to understand, it would have been well, in view of the high importance attached to the function assigned to feeling, to have given a fuller account of it. Nor am I satisfied with what is briefly, almost casually, said of the "psychical activity of apprehending the stimulus". I quite agree in regarding the phase of mental life called sense-apprehension as a mode of activity, and in thinking that our primitive conceptions of activity are drawn from experiences of this inner life; but when the activity of sense-apprehension is separated from the other components of the complete fact, and is regarded as having an intensity or strength of its own which, apparently, may vary, I am of opinion that the fullest psychological analysis is needed in order to avoid misconception.

Sensation is not only complex as uniting feeling and

qualitative content: it further exhibits complexity as being in essence of the nature of a judgment. In order that a sensation should come about, there must be a previous stimulation, of which we are sensuously unaware, but through which, and in relation to which, the new stimulation is apprehended. "That of which we are conscious in sensation is the difference, the relation of two stimulations, which only by their co-operation yield the product, *sensation*" (p. 41). "Every sensation is a process of becoming aware (*das Bewusstwerden*) of the definite difference between two stimulations" (p. 71). The stimulation or sensation of which we are unaware is the indispensable condition for the consciousness of the sensation of which we are aware; the first stands to the second in the same relation in which the apperceiving representation stands to that apperceived; and as the mental movement in the case of apperception is admittedly a judgment, the form of the act of sensation is likewise to be called a judgment.

With most of this exposition I find myself in disagreement, and I am still more sceptical as to the consequences which Prof. Riehl proceeds to evolve from it. For he regards the facts just noted as clearing up the "characteristic and epistemologically weighty feature of sensation," that with every sensation there goes "the immediate consciousness of its relation to something which is not sensuously apprehended". This *something*, he insists, is not to be regarded as identical with or as explicable by the objective character which we come to assign to the qualitative content apprehended. Sense-contents are doubtless regarded as not-ourselves, but in addition they are referred to something not-themselves. An original *positing*, or recognition of existence, not of or in but other than the sense-content, is combined with every act of sense-apprehension. Sensation cannot be regarded as absolute; from its mode of origination it can only have the significance of a property of something existing (*Eigenschaft von Etwas*). With this original positing of existence goes the peculiar mass of feeling constituting Belief, which feeling, again, appears to be identified with the feelings of innervation (p. 45). It appears to me that in the view thus taken of sense-apprehension certain knots are rather cut than fairly untied. Evidently much of any future discussion respecting the real worth of knowledge is determined by what is here said regarding sensation; indeed, without qualification, it may be said that the whole decision in regard to such real worth is contained in the decision regarding sense, for Riehl is perfectly definite in maintaining that

all the more elaborate processes of perceiving, thinking, reasoning, rest, so far as reference to reality is concerned, on sensation. In the development of knowledge we may make more distinct and adequate our conceptions of the real, but in so doing we only unfold what is implicitly contained in sense.

The resemblance of this acceptation of sense to certain cardinal doctrines of Leibniz leads naturally to a critical remark on the earlier thinker which enables Prof. Riehl to make more precise his own view (iii. 171). The Leibnizian doctrine, it is insisted, can offer no explanation in terms of its own assumptions of the objective reference taken to be involved in the *Vorstellungen* of the Monad. To start with the conception of the monad as a being whose whole activity is *presentation* (*das Vorstellen*) precludes any explanation of a *presented content*. At best such content can be no more than like presentative activity of other monads. It appears to me, however, that the objection so stated is too general. I doubt if Leibniz would have accepted the severance between *presenting* and *presented* on which it turns. I think he would have maintained the old view that no conception whatsoever can be formed of *presenting* or *apprehending*, in even its most obscure mode, which does not involve as correlate the *presented* or *apprehended*. Where there is difference, and difference doubtless there is, it concerns the most of existence to be ascribed to the contents presented or apprehended. With Leibniz the element of not-self, of external reality, is for each monad the limiting, passive, given character of those impressions which, though called perceptions, are held to exist either as wholly beyond consciousness, or, if within consciousness, yet not to involve the opposition of self or subject and not-self or object. With Leibniz, moreover, the passive element discharges a function entirely similar to that which Prof. Riehl has to assign to sensation. It is for Leibniz the expression of the real relation in which each monad stands to the whole: it is the bond of union among the monads whereby they form a system of compossible realities. With Prof. Riehl sensation is a result of the actions and reactions of the real (for though the expressions used often lend themselves all too easily to the naturalist or biological view, which takes the organic body and its extra-organic stimuli as the agents involved, Prof. Riehl interprets both body and extra-organic things as only phenomenal of the ultimate reality); and, as from sensation so conceived there develops the distinction of subjective and objective, sensation in its primitive character is the general

correlate of reality. The difference which remains can be put succinctly enough. With Leibniz, the given, passive, limiting nature of sense-affection is regarded as containing in itself and as warranting the reference to reality other than the sentient monad; with Prof. Riehl, the same characteristics are regarded as containing in themselves and as warranting a reference to reality which is *other than sensation itself*.

I trust I am not misapprehending Prof. Riehl in taking the last expression as being the feature of his doctrine both of sense and of consciousness generally. He seems to me to say that in every act of sense-apprehension there is contained a judgment that something is which is other than, distinct from, antithetic to the sense-content apprehended. Such a view deserves closest scrutiny and closest examination on its own ground. Psychological analysis of the various components making up the act of sense can do no more than bring out more clearly the essential peculiarity of this all-important feature. No explanation of it, in terms of the phenomenal experiences within consciousness, is possible. Accordingly, one must insist that all appeal to the given, compulsory character of the content apprehended is beside the question. These marks can serve only to distinguish, in phenomenal experience, what *is* sensation from what simulates sense, and I observe, with some surprise, that Prof. Riehl maintains no one can imagine that he is sensuously affected. There must be dismissed also, as not touching the heart of the question, all appeal to active movement as an ingredient in sense-apprehension. For movement is itself phenomenal, and, however important as giving a clue to what we are to understand by the real, can hardly be regarded as itself the act of positing a real distinct from itself.

In order to obtain further light on so important a matter, I turn to certain distinctions on which Prof. Riehl lays stress, and which in themselves are of much general interest. In the first place, throughout the discussion of the grounds for allowing reality to the external world, the notion of *being* (*Sein*) is carefully distinguished from the notion of *being an object* (*Object sein*), and their relation is so explained as to leave no doubt that it corresponds exactly to the familiar scholastic and Cartesian distinction between formal and objective existence, a distinction which more modern theories of knowledge have done ill to drop. *Being* is the real, absolute existence of the thing, absolute in the sense of being apart from, other than, and independent of consciousness. *Being*

an object is the form which apprehension of Being takes in consciousness under the two-fold sets of conditions—those of consciousness in general, those of special affection of sense in particular. *Being an object* is invariably relative: relative not only to subject-being, since it is developed in strictest correlation with that, but also to the real independent existence which is referred to in it. Thus *Object sein* and Phenomenon come to mean much the same in Prof. Riehl's terminology, and it is possible for him to distinguish phenomenon from *Vorstellung*, which ambiguous term, so far as I can gather, he would confine to *re*-presentations resting on and formed from sense-affections. It is true, his language here is not more accurate than that of the majority of writers on psychology and theory of knowledge, and one might feel inclined to insist that such a phrase as occurs on iii., p. 182—"natural phenomena are only known to us in the form of *Vorstellungen*, consequently as psychical processes"—indicates a deeper confusion than that of language.

As the point is one of very great significance, a further remark may be permitted on it. When it is said that objects perceived are complexes of sensation arranged in space- and time-relations, the plain man is much perplexed, and his perplexity is not removed by the reason advanced for the statement, that whatsoever he knows lies within consciousness, that perceptions, sensations and the like are facts of consciousness, and that consciousness cannot be transcended. I do not ascribe all these reasons to Prof. Riehl, though the definition of Perception is his, for he has very emphatically expressed his disapproval of them, and has most excellently commented on the wholly metaphorical sense of such expressions as *in* or *out of* consciousness. But I think he has not gone far enough, and that there is more to be said for the plain man and his perplexity. There runs a double sense through all the favourite shibboleths of subjective idealism. On the one hand, consciousness is spoken of as the way of knowing; on the other hand, it is spoken of as a *fact*, or series of facts. In the second sense, it may be appropriate to use of it those objective terms by which we are in the habit of describing things or events; in the first sense, all use of such terms is inappropriate and hopelessly misleading. It is unquestionably difficult to find and to remain faithful to forms of expression which shall only indicate the first of these senses. The tendency to drift into objective phraseology is almost inevitable, and yet one would be inclined to go the length of saying that just in so far as a phase of consciousness is conceived of as a fact, an occur-

rence, in so far it ceases to have significance as an item of knowing, as a way in which knowledge is had. Its existence, in other words, plays no part in the apprehension which, one may perhaps legitimately say, is had through means of it. I may illustrate the distinction adverted to by referring to Mr. H. Spencer's interesting discussion of Realism. When Mr. Spencer tells us that the subject consists of faint states of consciousness, the object of vivid states, he is describing both in objective terms and noting such characteristics as might be observed by a mind apprehending both. But, when he tells us that "the thing primarily known is not that a sensation has been experienced, but that there exists an outer object," he is dealing with what can never be exhibited or conceived in the fashion of a fact, and in which the existence of a sensation as a fact plays no part. So far, then, from admitting that apprehension cannot transcend consciousness, one might say that if consciousness be conceived in objective terms as a series of facts, all apprehension transcends it. Consciousness so regarded is a part—an extremely complicated and involved part—of what we know. I will add that its complexity seems to me too frequently overlooked, and that inconceivable harm to philosophy generally, and to psychology in particular, has attended the familiar correlation of outer and inner phenomena, objects of outer sense and objects of inner sense. With fatal facility, sensations, presentations and the like are treated as objects to which the subject may attend, which have objective relations to one another, and which are viewed as separate entities.

It appears to me only a form of the same confusion of thought when a quasi-existence is assigned to what are called phenomena. Riehl distinguishes in a manner I do not quite understand Phenomenon and *Vorstellung* (iii. 152). Both subject and object he says are phenomena, and that in the only intelligible sense of the term, as including in their significance the reference to that which appears. If he only means to oppose the secondary and derivate experience given in representations to the direct and vivid experience of sensation, feeling and perception, there is not much to object to, though I do not in the least understand what the real is that manifests itself in the subject. For, after all, the special significance assigned by us to *Vorstellungen*, in the sense of representations, is acquired, not original; given to it by experience, not contained as an integral part of the content represented. But, allowing this to pass, one may fairly ask what is the exact nature

of the addition made to complexes of sensation, called objects perceived, when these are designated phenomena. It seems to me as if a two-fold answer to this was given by Prof. Riehl. On the one hand, he is constant in insisting that sensation as such involves position of the real other than sensation, that *being* is no predicate of thought but is only *felt*, *experienced*, and that thus there comes about the phenomenal aspect of the percept. Phenomenality is, so to speak, given in and with the act of sensation. On the other hand, developing his view of the immediate, not secondary or inferential apprehension of a real external world, he advances as grounds "two incontestable facts of consciousness, the dependent character of consciousness in sensation and perception and the real existence of social or altruistic feelings" (iii. 172). I cannot attach much weight to the latter of these facts, and, generally speaking, the stress laid on the social factor seems to me unnecessary. There can be no doubt that, in the formation of that highly articulated representation or, better, conception of the outer world to which the matured consciousness attains, what may roughly be called the social factor plays an important part, but its function seems to me secondary and derivative, capable of having its history traced and so explained. The reduction of the "transcendental" consciousness to notions, or empirical conceptions, may certainly be largely facilitated by the operation of the conditions called social, but it seems to me an error to trace its origin to these conditions (iii. 165 n.).

I cannot determine whether or not Prof. Riehl identifies the "dependent" character of consciousness in sense and perception with the original and simple positing of the real. The identification would seem to me an error; for the characteristics which compose it are themselves somewhat complicated data of consciousness, and yield their result only through reflective interpretation. Probably, then, the whole stress of the contention respecting the external world rests on this original position of extra-sensational reality, which is, at the same time, recognition of the character of the sense-content apprehended as phenomenal. But if so, then there are two questions that press for answer. First, is the position explicable by reference to the psychological characteristics of sensation; in other words, is the character of sensation as such the determining element? Secondly, are we entitled to describe complexes of sensation as phenomena? As regards the first, I take the view briefly expressed by Kant: "that it is an affection of sense in me

constitutes in no way a reference of the presentation to any object," and would carry it further. All that concerns the sensation as an affection in me becomes matter of knowledge only in the course of that development of mind whereby the subjective individual life of the self is severed from the total complex of experience, and only contributes indirectly to enable us to determine further the general marks of the object apprehended. The *position* involved in the sense-affection is due not, it seems to me, to the peculiarities of that affection as produced, dependent, constrained or what not, but to the thought of which the true whole concerned, the act of sense-apprehension, is a specially conditioned form. I can form no conception of an act of apprehension which is not the apprehension of a "somewhat," an object therefore, but it seems to me evident that the said "somewhat" is neither the "sense-affection" nor a "real other than the sense-affection". Not the former, for that only becomes an object when apprehended as one phase in the temporal sequence of the inner life; not the latter, for the data by which the discrimination of real from sense-affection is effected are not there given.

What do we mean by describing complexes of sensation as phenomena? I have already objected to the phraseology which describes complexes of sensations as the objects apprehended in sense-perception, but at present I am only concerned to draw attention to the quasi-existence which is implied in the term phenomenon. It is an implication that runs in a perplexing fashion through the whole of Kant's *Kritik*, and the wonderful difficulties of exposition to which it leads can be most clearly discovered in the curious speculations contained in his posthumous work. Nor is the perplexity confined to modern and more psychological philosophising. It is at bottom the difficulty that the Platonic theory encounters in dealing with the particulars of sense-perception. The complication seems to me false. There is no predication of existence involved in the term phenomenon. I put aside as wholly irrelevant the consideration that our states of consciousness or acts of apprehension are produced, are dependent in their origin and relation to one another. The produced character of the act of apprehension, even if we had a clearer idea of the process than we possess, forms no part of the content apprehended. That content apprehended is certainly to be distinguished from the real, but not as though it were one fact set alongside another. The act of apprehension is only to be understood as involving this two-fold aspect—appre-

hending and the content apprehended, and these are not two distinct existences. I should even go so far as to think that recognition of the act of apprehending *as an act* is a secondary and derivative feature. That our apprehension, then, is phenomenal means no more than that it is apprehension of reality, and that it is as such distinct from reality. Phenomena do not intervene as a *tertium quid*, and when we speak of phenomena, contrasting them with the real, we mean, I think, only to lay stress on the exceedingly partial, fragmentary character of the picture which we gradually form of the inter-connected whole we style the real. There are many expressions in Prof. Riehl's treatment which lead me to think that in substance we are not far from agreement, but in the mode of exposition I find much to which I take exception, and there are some special doctrines which I cannot reconcile with the view here taken.

The fundamental position being granted, that in consciousness, and pre-eminently in the phase of consciousness called sense-apprehension, there is direct reference to a real other than consciousness,—much follows with comparative ease in regard to the limiting, objectively valid notions of experience. The qualitative differences of sensations point to ultimate differences in the characteristics of the real stimuli that give rise to sensation. The prevailing tendency to interpret all difference as quantitative merely, has its universal scope assigned to it through the easy confusion between conditions of existence and conditions of intelligibility. We only understand when we have reduced the manifold presented to a unity of conception, and the uniting conception by which we express to ourselves the ultimate relations of the real is naturally based on the formal and most general aspects which we apprehend in phenomena. But it is impossible to regard the mechanical form of the real as exhausting its nature. The qualitative differences we discover in our apprehension of the real must correspond to qualitative variations in the real itself.

Moreover, just as we find ourselves in sense-apprehension constrained to accept sense-contents as given by and corresponding to the real, so we are constrained to accept and to interpret, as in like manner indicative of the real, the numerical multiplicity, the coexistences and the sequences of the contents of sense. It is true the representation of these relations is dependent on the unity of consciousness, and is possible only for a consciousness aware of its own continuous identity, but the relations themselves are emphatically *given*, not constructed, belong to sense, not to

representation. "The relations of sensations, their definite coexistence and sequence, impress consciousness just as sensations themselves do; we feel this impression in the constraint which the definiteness of empirical multiplicities imposes on our perceptive consciousness" (ii. 104). In these relations, too, consists the empirical element of the representations Time and Space.

The analysis of Time and Space is carried out with great care and minuteness, and it forms, in some respects, the most original and valuable portion of Prof. Riehl's work. A brief *résumé*, such as can here be given, will convey but an inadequate conception of the care and circumspection with which the work is done. Selecting Time for first treatment, as being the fundamental idea of the two, Riehl signalises the two-fold element implied in it, permanence and sequence; points to the real conditions of these in the uniformity and continuity of consciousness on the one hand, and the actual, empirically given sequence of sensations on the other hand; and traces the formal qualities of our Time-representation, its unity, homogeneity, continuity, to the recognition of unity of consciousness in the apperception of successive sensations. In a most interesting fashion he draws attention to the psychological variations in the clearness with which consciousness of self comes about and connects with these the changes in our Time-representation from its first crude stage as little more than Time-perception up to the abstract notion of mathematical Time. Time, then, though conditioned by the unity of consciousness, and therefore having an aspect only to be interpreted in terms of consciousness, contains likewise an empirical side, and so has objective significance. It is neither pure form of consciousness nor merely subjective. The empirically definite relations of Time point clearly to relations of the real which are manifested in Time. Real things, what affect consciousness, must be at least simultaneous with their phenomenal appearance in consciousness, and it may, therefore, be reasonably assumed that phenomenal sequence points to real sequence. Time, moreover, is a real agent; "it changes the matter of perception, and, therefore, can be no mere form of representation". The familiar facts of *Zeit-verschiebung* are directly, easily, perhaps only, explicable by assigning to Time an objective character.

With many portions of this account of the Time-representation I cannot bring myself to agree. The phenomena of *Zeit-verschiebung* appear to me to point only to the easily made confusion between the perceptive and the

imaginative portions of our experience, and to furnish the most conclusive reply to Prof. Riehl's hypothesis that the subject cannot *imagine* that he is sensuously affected. That he should be capable of such imagination appears to me most intelligible. For, after all, the distinction between real and imaginary in sensuous experience is empirical only. The subject who dates an impression before it has actually occurred has no more than the vivid representation of an unimpressed content which he locates without hesitation in the empirical series of sensations co-existing with it. Again, that the real should be simultaneous with its phenomenal appearance in consciousness is only capable of interpretation if it be assumed that real and phenomenon are alike objects of consciousness. So to designate them is to fall into the error above noted, of erecting the content of perception into an object with a quasi-existence. There are not, as it seems to me, three distinct facts—real, phenomenon, act of apprehending—but two only. The phenomenon has no more than a fictitious existence conferred upon it by an act of our own abstraction. Further, I can attach no precise meaning to the view that Time is a real agent, concerned in altering the contents of perception. The "summation of effects" which Prof. Riehl adduces as the characteristic feature of development, and as proof of the real efficacy of Time, is perfectly explicable without such a curious hypothesis. That the real changes one would readily allow, and one would further insist that such change is by no means to be conceived of after the fashion of our Time-image; but to allow efficacy in production of change to Time is a position which has neither reasons in its favour nor coherence with the general doctrine of the apprehension of Time. I would observe, lastly, that I do not think there is so much difference between the account of Time here given and the Kantian doctrine so sharply criticised by Prof. Riehl. I do not think Kant overlooked, or needed to overlook, the empirically given nature of sequence, but I imagine he was justified in asserting that representation of these empirical facts, recognition of sequence *as* sequence, was not to be explained by simply pointing to the empirical facts. These, after all, however familiar to us, have a nature only assigned to them by abstraction from the more concrete and complicated acts of our perception. The whole exposition given by Prof. Riehl tends to accentuate unduly the mechanical interpretation of the connexion between reality and consciousness into which, indeed, the theory seems more than once to fall.

I have no objection to the distinction drawn between association and apperception, but I would press that the nature of apperception, which is left in great obscurity, might well have been more thoroughly investigated; that the significance of unity of apperception is insufficiently determined; that the relation between the unity of consciousness and the empirical contents of the permanent self is by no means clear; and finally, that the notion of *permanence* cannot be regarded as legitimately based on the mere fact that some contents of the inner life remain unchanged, while others fluctuate. To describe this relatively greater duration of some mental facts as permanence, and in any way to correlate it with the constancy of matter, seems to me a hasty analysis.

The same distinction between formal and empirical elements as has been used in respect to Time is applied to Space. What is formal and, so to speak, *a priori* in our space-notions is the result of the unity of consciousness in the varied experiences of coexisting sensations. All that characterises space can be explained by reference to the functional activity of our uniting consciousness taken in conjunction with the peculiarities of sensuous experiences in which coexistence is apprehended. The senses of space are pre-eminently touch and sight, for in them only is there fully developed the distinction between "motor-feelings" and sensuously appreciated qualities. It would be more correct, however, to say that sight only is the space-sense; the distinctive features of Prof. Riehl's analysis being the total severance of tactual space from visual, the explicit declaration that tactual experience of space, so called, is entirely *temporal* in nature, and the identification of the fundamental mark of visual sensations with the ultimate quality of perceived space. Tactual space is the sum-total of the ideas of coexistence obtained by means of the sense of touch, and the formation of it rests on the power of distinguishing simultaneously received touch-sensations, on a difference in value of the "feelings of innervation" accompanying these, and on the "mobility" of the interdependent system of such feelings and sensations. Not in any one of these three elements do we find the mark we habitually assign to space; the sense of touch, by itself, cannot yield space-perception in the narrower acceptation of the term—"the perception that sensations not only coexist in definite relations and in definite temporal extents of such relations, but in addition are external to us and external to one another (*ausser uns und aussereinander*)" (ii. 147). It is this latter feature, the

simultaneous externality to one another of perceived facts, that constitutes the characteristic of space as subjectively apprehended, and it is only sensations of sight that furnish at once and by themselves the perception of spatial extension. Space is the specific form—not of external sense but—only of the sense of sight. All other sensations, taken by themselves, must be represented by us as intensities of definite quality, "but we must think the sensations of brightness (*Helligkeit*) as extended" (ii. 149). "The sensation of brightness, without further experience, is the perception of extendedness, and this perception seems to be directly bound up with none of the other sensations" (ii. 150).

The very startling character of these positions is due mainly to the language in which they are expressed—language for which Prof. Riehl, perhaps, is not more to be blamed that the majority of psychologists. But, after we have had difference between simultaneous sensations distinguished from "*aussereinandersein*," in that the latter involves the representation of being in different portions of space (ii. 79, cp. 99), it is satisfactory, though a little perplexing, to find it after all stated "that *ausserseinandersein* is a sensation like every other, brought about by real processes in our consciousness" (ii. 198). For if this is interpreted strictly, it would signify only that the conditions of visual sensation were such as to enable its contents, with great readiness, to assume the form of Space. The immediacy of space-relatedness which appears to be assigned to the content of visual apprehension seems to me illusory, though I am quite prepared to allow that, in our concrete or pictorial way of envisaging space, we tend habitually to employ only data of vision. The highly objective character which we accord to the contents of visual apprehension seems to me not more dependent on the peculiar ease with which distinguishable parts in the visual content are simultaneously apprehended than on the relatively great amount of "*objectifying*" data which accompany vision, and of which, indeed, Prof. Riehl is no ways oblivious. I should, therefore, go the length of doubting the worth of the sharp distinction drawn between tactual and visual space-perception. For, if we must recognise, as Prof. Riehl does, that the peculiarities of the visual space-perception, in the picture it affords us of a world of objects immediately outside of one another, are strictly subjective, and that only the "logical and arithmetical portion of the space-intuition" has real significance, we may reasonably doubt whether the distinction has any other than psychological importance. I find it quite

impossible to attach any meaning to the expressions that sensations have or have not the space-quality in themselves. Sensations taken in themselves are mere abstractions. Sensations, as acts or states of the apprehending subject, are necessarily devoid of space-relations, because only as in contrast to a space-extended world of objects does the subject arrive at increasingly clear consciousness of himself and of his varying inner experience. Nothing can be better that the exposition of this correlated development of subject- and object-consciousness given in Prof. Riehl's chapter on Perception (ii. 187-218). The only remark I shall offer on it is, that it makes abundantly clear how large is the share in sense-apprehension that is played by elements not capable of being described as sensuous, how imperfect are the psychological classifications which separate perceiving from thinking, and how impossible it is to connect the reference to reality with the mere abstract nature of sensation.

Unity of consciousness, which plays so important a part even in Perception, comes forward in more explicit fashion in the various processes and products of Thought, and by Thought Prof. Riehl understands *discursive* thought, manifested in the familiar types of Notion, Judgment and Reasoning. There is much excellent matter, both of psychological and epistemological kind, in the treatment of the various ways in which, within the sphere commonly designated perceptive, the uniting function of consciousness makes itself apparent, but to this a mere reference must suffice. More interest attaches to the manner in which Prof. Riehl reproduces and interprets the familiar distinction between matter and form. The function of the unity of consciousness is in itself formal; the distinguishing peculiarities of the various products of thought come from the general nature of the matter within which unity of consciousness is realised. As the result of the combination between purely formal unity of consciousness and general characteristics of the matter of experience, we have the fundamental outlines or principles of the systematic conception of completed knowledge. Such principles may be described rightly as *a priori*; they can only be specialised through particular experience; but they furnish a norm and guide to all empirical research, and in default of them empirical research would not only be aimless but would fail to yield foundation for those universal maxims on which in detail it confidently proceeds. Such maxims, *e.g.*, as the law of causality, the law of the permanence of substance and force, exhibit on closer analysis empirical and *a priori* features. Empirically, *e.g.*, the law of

causation requires in its two aspects, as indicating a connexion between two events and as a generalisation, on the one hand special evidence of the quantitative equality of the facts designated cause and effect, and on the other hand special evidence that similar or identical cases are found in nature. But all such special evidence would fall short of the mark if there were not conjoined with it the perfectly general rule of all experience, that experience as a whole is only intelligible in so far as its variations are conceived as no other than modes in which the one permanently identical whole is manifested, and this again is but the correlate in experience of the unity of consciousness. The unity of the world of experience is bound up with the unity of consciousness; that this unity should, for understanding, exhibit itself as a quantitative unity depends on the general character of the matter furnished, which exhibits no other than qualitative and quantitative aspects.[1]

According to our author—

"The logical conditions of experience, the categories of the permanence of substance, of causality, or the sufficient ground of change, of the interconnexion of phenomena in one all-embracing reality or nature, are not, as Kant thought, a manifold of different notions, given as merely the actual structure of our understanding. They spring from a single supreme principle, that of the unity and permanence (*Erhaltung*) of consciousness in general, and differ only through the various application of this principle to the general relations of Intuition. The Ego . . . becomes conscious of its own unity and identity as the conditions of all knowledge, now in the discrimination of a simultaneous manifold of impressions, the form of whose intuition is space, now in the combination of a series of impressions, now in the conjoint acts of discriminating and combining, whence arises the notion of a connected whole of phenomena. We can thus distinguish an analytical, a synthetical and an analytico-synthetical function of consciousness. Through the one we distinguish the permanent from the changeable, through the second we connect a change with its grounds, and through the third, finally, we conceive of all the real, whether things or processes, as belonging to one and the same world, each particular as part of the whole of Nature" (iii. 67-8).

It is hardly worth raising the question, whether the remark on Kant made here and in the note appended to the passage quoted is fully justified. I do not imagine that Kant would have found much to object to in the statement that category and schema are one and the same thing; there is a sense in which that is true, another in

[1] The same line of thought leads Prof. Riehl to the view that judgments in a logical aspect are equations of notions, that the one principle of logical consequence is the law of identity, and that logic therefore has only to lay down the conditions under which notions can be combined without contradiction.

which it is false, both for Kant and for the author's somewhat similar theory. Nor is it, perhaps, a fair statement of the Kantian categories to describe them as merely the actual structure of the understanding, and so to sever them on the one hand from the unity of consciousness, and on the other hand from the general character of intuited material for understanding. It is, however, a thoroughly justifiable comment on the Kantian theory, that it fails precisely where it was most emphatic on the need of success, *viz.*, in showing that the categories are the abstract forms of the connecting thoughts whereby objective knowledge is possible. That unity of consciousness, the mind's realisation of itself, is possible only in and through apprehension of objective fact, is the simple maxim which Kant applies in the analysis of experience, and it is a principle from which, so far, assent cannot be withheld. But it does not enable Kant to show either that the thoughts involved in such apprehension of objective fact are in intimate relation to identity of consciousness, or that in system they exhaust the abstract significance of objectivity. It is a slippery notion, that of the unity of consciousness, and all too easily interpreted in a semi-psychological fashion, into which fashion, indeed, the over-formal interpretation of it likewise tends to fall. I feel no great satisfaction with the separation which Prof. Riehl seems to make between the apparently given character of intuition (in its general characteristics) and the uniting function of consciousness, a separation involving as consequence the assignment to those given characteristics of all the concrete significance of the thoughts which emerge from their conjunction. Nothing is gained by giving to a result of our reflection the quasi-objective meaning of a distinction among facts. So far as the analysis of knowledge in and for itself is concerned, it matters not at all that we may seem to ourselves in the history of individual experience to be able to trace successive stages of clearness of conception in the process of unifying the matter of intuition, and that the process may seem to be one involving given material, and the active function of discriminating and combining it. No light is thrown upon the "function" of unity of consciousness as a condition of knowledge by assimilating it in any way to the active exercise of an energy by the subject, an exercise which we shall in vain attempt to express in terms of objective fact, and which must, therefore, from that point of view, present itself as a merely blank form of conjunction.

It is possible that I may here be misinterpreting Prof.

Riehl's meaning. I have in view, however, not only what is said in the passage above quoted, but also what has been before commented on, the apparent tendency to regard the "transcendental consciousness" as a derivative fact, a product of social relations. To these must be added the general interpretation given of unity of experience, which seems to me to be taken in too quantitative and mechanical a fashion, and the special treatment (iii. 214 ff.) of psychical synthesis. I confess to a feeling of doubt when I find much deduced from the notion of unity—when, *e.g.*, the whole principle of ground and consequent is interpreted as no more than the expression of the unity of things, and the equivalence of ground and consequent merely the statement of what is involved in the thought of reality as one. Such principles seem rather to me to be the ways in which the unity of things comes to have a meaning at all, and the unity of things to have a far more concrete and complicated significance than that of a quantitative sum.

I have some difficulty also in understanding the full scope of the discussions, most interesting and valuable in themselves, of the two great scientific principles, the universality of the causal relation, the permanence of substance and force. The general character of the treatment is plain enough. The ultimate principle, unity of consciousness, prescribes unity in the sequence of events and in the sum-total of coexistent, space-related facts. Connectedness of ground and consequent in the temporal sequence of experience, permanence of the extended amid change, are but the other side of unity of consciousness. These generalities, the conditions of the intelligibility of experience, become scientific principles, if and in so far as the actual data of intuition can be shown to conform to them, and such conformity is exhibited in the quantitative relations of conditions and the events conditioned by them, of real substance and its changing forms. So far is clear. Experience, the world of phenomena, is to be regarded as a connected series of interdependent changes, constant in sum amid all its variety. Nature is a mechanism. How far, then, do these characteristics apply to the ultimate real, that which is manifested in phenomena? How far do they enable us further to determine the nature of the real, which up to this point has only had asserted of it, first, a general structure enabling its phenomenal manifestation to conform to the conditions of unity of consciousness; secondly, a particular structure explanatory of the empirically cognised qualitative differences and quantitative relations of phenomena? To this final

question the whole inquiry has been tending. It is, indeed, the ultimate metaphysical problem, the answer to which is based upon, and perhaps even determined by, the analysis of experience. Prof. Riehl's answer, I think, is to be gathered from the tenor of the detailed consideration which in his final volume is given to the special problems, Reality of the Outer World, the Relation of Psychical and Material, Determinism, the Infinity of the World, Necessity and Teleology. It is impossible to follow in detail these special discussions, any one of which furnishes matter for prolonged debate. I shall here note only certain results which seem to me to bear on the ultimate question. On the whole, as was before said, the discussions resemble those occupying a similar place in the Kantian system, though cast in a more modern, more scientific form, and the results in many ways are identical with the Kantian.

The treatment of the question of external reality seems to me beset throughout with the ambiguity attaching to the term *real*, which now signifies the peculiarity of immediate sensuous affection as opposed to *Vorstellung*, now the character of that which, being other than the sensuous content apprehended, manifests itself therein. When the first is prominent, there is the greatest danger that the terms employed will drift into the fatally attractive puzzle of psychological idealism, which offers its interpretation of things as mere facts of consciousness. I cannot accommodate my ideas to such phrases as "Natural phenomena are only known to us in the form of *Vorstellungen*, consequently as psychical processes," or "the general properties which we assign to the objects of external perception are at the same time qualities of the process of perception itself" (iii. 182, 189). There seems to me no ground for identifying the meaning of consciousness with the subjective processes which in a dim and obscure way we gradually come to sever off from the rest of experience and regard as constituting the individual mind. The hard problem, What characteristics do we assign to those facts, as they may be called, that enter into the inner life? Prof. Riehl, so far as I can see, does not touch. He has traced excellently the manner in which the opposition of subjective and objective grows up and acquires clearness and articulation, but the effect of the general maxim that experience, consciousness, is the natural product of the action of things, a maxim that one might not quarrel with provided its interpretation were agreed upon, is to induce the idealistic phraseology from which one would most gladly escape. Subjective and objective are alike treated as facts, the latter,

however, having the additional function of being "indicative" of the real, a function which I cannot reconcile with the notion of a fact at all.

The most important contribution to the ultimate problem is given, however, in the excellent discussion of the relation between psychical phenomena and material processes, of which the following passage is a summary:—

"Psychical states and activities are not dependent on the external phenomena of things; on the contrary, such phenomena are themselves, as known (*als Vorstellung*), the result of psychical activity. The will stands in no contradiction to the mechanism of outer fact. The same conformity to law, which in its external manifestation we apprehend as mechanism, is exhibited in the connexion of the Will on the one hand with its effects, on the other with its causes; and the mechanical liberating force of Innervation, which we in the inner life experience as an Impulse of the Will, is distinct only phenomenally, not in ultimate nature, from the impulse itself. An innervation without the impulse of will is therefore not the same real process as an innervation with this impulse. Consciousness and will spring from the qualitative activity of things, the abstract and quantitative expression of which is mechanism. The mechanism of outer nature is no precondition of things themselves, is no law imposed upon things from without; it is but the expression of their own activity, the consequence of their unchanging properties" (iii. 211-2).

In other words, the mechanism which forms the objective element in our experience is not the ultimate reality, but phenomenal of it. The one system of real things, qualitatively distinct, gives rise by its interactions to the world of consciousness, within which, and only within which, mechanism finds a place. We must say then that the effects of the ultimate reality are one, just as the reality is one. The difference between the inner psychical experiences and the objectified phenomena we commonly call external is a difference resting on the ways of apprehending the one real. It is the same real interaction of things that is now apprehended as a change in the particles of the brain and then as a psychical experience. The subject cannot be simultaneously apprehensive in both ways, but what is for him inner experience is for an outer observer change of a mechanical kind, objective event.

Can we follow out completely this conception? There is, Prof. Riehl admits, one significant exception—what he calls "psychical association," the connexion of contents in consciousness on the ground of their apprehended likeness. This is only "in and for self-consciousness, and, even if external observation of the processes in the nervous substance were complete, must for ever lie beyond its scope" (iii. 214). That psychical association is not to be called

just one fact of mind among others, but that it is the very essence of the whole, Prof. Riehl fully recognises, and he finds explanation of its apparently anomalous position in the very ultimateness of its character. "It concerns no phenomenon, but the ground of all phenomena, the uniting function of consciousness. Of this function, psychical association is the effect." It depends on no one organ or part of the nervous system; its substrate is "the organic individual as a whole and in the interdependence of its parts". The unity of self-consciousness is the psychical expression of the organic equilibrium that is maintained in life amid all its quantitative changes. This unity can be intuited neither in inner nor in outer experience. Only its effects, psychical associations, are part of the subjective side of experience (iii. 215-6). Moreover, only in external experience is there involved the note of mechanism, the equivalence or identity of causes and effects (iii. 201, 322). Inner experience gives a "supplement to the mechanism of external phenomena: it shows us processes not simply brought about, but themselves active" (iii. 195).

Some points in this exposition seem to me to involve grave difficulties. If I follow it rightly, the peculiarity of the phenomena of the inner life is explained by reference to the qualitative character of the real, a character only known to us in and through its phenomenal manifestations, but of whose nature these phenomena entitle us to form at least a partial conception. This conception, as based on the phenomena of the inner life, involves the thoughts of self-activity and of a mode of inter-connexion other than that familiar to us in the sphere of mechanism. In what relation can the real so conceived be placed to conscious experience? Not merely in that of cause to effect. Apart altogether from the reflection that in such a relation something would be involved alien to the same relation as holding in the sphere of phenomena, it seems to me hard, if not impossible, to identify the thoughts of *effect* and *phenomenal manifestation*. Further, to put in the briefest fashion a second perplexity that I find, I cannot form a coherent conception of the inner experience as a number of states each of which might be contemplated as arising from or being the manifestation in consciousness of the underlying reality. The very consideration to which Prof. Riehl draws attention under the term "psychical association" seems to me decisive in this respect. Psychical association, we have seen, is not one phenomenon of inner experience, but is that which gives to mind its character; and I do not

suppose that it is intended to identify the unity of consciousness on which the possibility and the form of knowledge rest with the empirical unity of the self-conscious individual. Finally, I note that if, as Prof. Riehl is most cautious in pointing out, every external phenomenon has its psychical correlate, he can hardly avoid the perplexities arising from the want of an exact statement as to what characterises inner experience or psychical phenomena as such. For there are not external phenomena *and* internal. *External* and *internal* are merely relative terms qualifying the several states of consciousness, and are absolutely inseparable. If there be no internal state which has not its external correlate, the object of sense-apprehension to another, just as little is there an external which has not its correlative internal; a difficulty which appears to me entirely to arise from the identification of 'consciousness' as our apprehension of the real with 'consciousness' as a peculiar set of phenomena, those of inner experience. The negative side, then, of this Critical Monism seems to be just and sound; the positive, I cannot follow out in any coherent fashion.

The discussion of the perennially interesting problem of Determinism is, in my judgment, one of the richest and most valuable sections of the work. To some portions of the introductory statements formulating the problem one might take exception; the general character of the solution offered leaves little to be desired. The ultimate ground for mechanical determinism Prof. Riehl rightly finds in the tendency to hypostasise the mechanical in experience. The true explanation of practical freedom, which is, in fact, the kind of action possible for a self-conscious agent, he finds in the comprehensive view of experience as exhibiting both mechanical connexion and conscious process,—not as disparate realities, possibly indifferent to one another, but as distinct only through the difference in ways of apprehending; a difference which otherwise would be expressed by saying that the subject can never obtain at once the apprehension of his own character and actions as among the facts of external experience and as inner life. There is a necessity in things, but a necessity that equally applies to the mechanism of external nature and to the existence of self-conscious agents acting with purpose and intelligence. The future may be pre-established through the past and the present, but "what has fore-ordained it is a power necessarily akin to human understanding, since it has produced that understanding" (iii. 245). Practical freedom

is no other than action from self-conscious motives. It implies, then, negatively, that the will is not constrained by immediate sensuous impulses, and, positively, that it depends on abstract self-conscious motives (iii. 259). And just as it is through action at all that the subject becomes aware of himself, so it is in the development of action that there becomes clear the consciousness of a general will, or spirit, or rule of action, and that the individual becomes morally free. On the circumstances through which this development takes place, Prof. Riehl has much that is valuable. I am under the impression, however, that here, as in the correlative case of belief in the external reality of things, he allows himself to be too much influenced by a desire to conform to current scientific ideas. For the 'intelligible character' of the Critical Philosophy he would substitute the character as moulded by social forces into conformity with, and recognition of, a generally constraining rule of conduct. The influence of these social forces is no more to be doubted than the comparative jejuneness and fruitlessness of the Kantian notion; but it requires much careful statement to avoid the error of tracing the moral law in an abstractly mechanical fashion to the natural forces of society. Were there not, in even the individual's consciousness, the elements that are conditions for recognition of a universal rule of conduct, it does not seem to me that such recognition would come about through social relations. The ethical side of the problem, however, is not discussed with formal fulness.

I take in the briefest fashion what forms the matter of the concluding chapters in the work—the cosmological problems, infinity of the world, the relation of natural law to teleology. As regards the first, the conclusion reached is that "the phenomenal world, the only object of knowledge, is in mass of unchangeable and consequently finite magnitude, in spatial extendedness not necessarily limited, in time unlimited as regards the past and boundless as regards the future"; but that, so far as the question applies to the ground of the phenomenal world, no notions of magnitude have any significance. The world in this sense does not exist in itself as mass or corporeal nature. The ground of phenomena in space is not itself in space or time (iii. 316, 314, 313).

The necessity of mechanical law is no more objectively real than the necessity which is implied in the relation of means and end. But that latter relation can find no place in the mechanism of nature, neither as explanatory of a part nor as a possible explanation of the whole. Only in the field of conscious striving, in the region of practical conduct, has

it a place, but there its place is as assured as that of mechanical law in the realm of nature. "A final end has objective reality, since purposive action is a process that takes place by reason of the unity of that which is the substrate of material and mental phenomena in the context of our experience. Voluntary action is the subjective expression of the very same activity which is objectively exhibited as spontaneity of the cerebrum" (iii. 354).

How closely these final determinations approximate to the cautiously expressed results of the Critical Philosophy does not need to be pointed out. Their form of expression is different, and, so far in particular as regards the central notion of Kant's practical philosophy, strong opposition is implied,—an opposition which, however, seems to me to involve no matter of great philosophical significance. I am not able to attach much weight to Prof. Riehl's strongly expressed opinion that in the Kantian system a distinction of importance is drawn between Things-in-themselves and Noümena, and that in the Kantian ethics an unduly positive content is assigned to Noümena. When we investigate more closely this positive content, there is only one interpretation, that of the self, which is not in thorough harmony with the more modern, more scientifically expressed views on the real here reached. But that point undoubtedly raises a difficulty in regard to the ultimate conception of reality both in the Kantian doctrine and as here expounded. From that difficulty as it concerned the Kantian system, seem to me to have originated those more metaphysical teachings of German philosophy for which Prof. Riehl has, I think, little or no sympathy. As it concerns his own views, it may be put in a very general fashion, and the statement of it will convey briefly the ground of objection which I take to "Critical Realism," so far as I understand Riehl's exposition of it. Are the results reached compatible with the root-idea of critical realism? or do they and the process by which they have been reached render necessary a restatement of that idea? The idea itself I take in the form frequently given to it in the work before me, that experience is the result of the action of the real upon consciousness. Every thinker must feel the difficulty of expressing himself otherwise than through ordinary familiar terms, the secret metaphors involved in which he may deliberately purpose to exclude from influence on his thought. Now the metaphor concealed in such an expression is that of a quasi-mechanical operation, and we are all too ready to picture to ourselves the world of conscious experiences as the result of the inter-

play of the real. But such a conception strikes at the root of all explanation of knowledge and gives fixity to a distinction which in the course of the development of thought proves itself to be a mere result of abstraction. No one would propose to treat consciousness as 'unnatural' or 'supernatural,' but one need not on that account identify the notion of knowing with the notion of a produced *Vorstellung*. Nor can we evade the consequence that naturally follows from the strict adherence to this mechanical conception. The realm of real existence and the world of ordered phenomena, that is to say, of produced *Vorstellungen*, which by their empirical nature and connexion in the unity of consciousness assume an order, lie apart from one another. A certain puzzling mode of existence, as perplexing as the mode of existence of the Platonic particulars, is necessarily assigned to the phenomenal world, and if we, at the same time, insist that existence is all of a piece, that there is but one variegated real, our principles only conflict in our minds. It is not that I object to those final determinations which Prof. Riehl offers of the nature of existence—with most of them I find myself in entire agreement; but I cannot help feeling that they constrain us to just such a more metaphysical way of attempting to express the relation of the real to thought as is here most strenuously refused. That we can find no expression for the nature of the real in terms of scientific knowledge, I take to signify—not that its nature is exhausted by what we can scientifically determine regarding it, but—that the notions of scientific knowledge have their own limits, limits that call for, and are capable of, explanation. With their aid, then, we can in no way attain a philosophically satisfactory statement of the way in which the real and consciousness are related.

This general difference of view would, doubtless, entail differences in regard to many important points of detail, some of which have been touched on in the course of this review. It does not prevent the most cordial recognition of the great value of Prof. Riehl's work—work equally distinguished for width of knowledge and for sustained power of philosophical thinking.

V.—DISCUSSION.

"ON FEELING AS INDIFFERENCE."

By Professor Bain.

The question mooted in my short Discussion-paper in Mind (No. 48) xii. 576, has been handled by Mr. Johnson, Mr. Sully and Miss F. A. Mason. I now desire to offer a few remarks upon the points made by the three severally.

Although not first in date, I will begin with Mr. Sully's paper in No. 50, p. 248. His observations disclose the necessity of scrutinising more closely the testimony of language to the popular recognition of states of excitement where pleasure and pain are either absent or uncertain in their presence. Roget's *Thesaurus* is a very convenient reference here.

Before taking up Pleasure and Pain, Roget has a heading entitled "Affections in general". Under this he gives *Feeling*, with such synonyms as endurance, suffering, emotion, fervour, &c.; *Sensibility* as susceptibility to impressions; and *Excitement*, or Excitability. Here are a few of the synonyms under the last head:—passion, emotion, perturbation, vehemence, impetuosity, flush, heat, fever, fire, flame, fume, tumult, ebullition, boiling-over, storm, tempest, fit, paroxysm. With these may be taken the synonyms of *Wonder*, which is one of the special heads:—surprise, marvel, astonish, amaze, strike, startle, stun, take aback, bewilder, stupify, dazzle, electrify.

Now, of this class of words it may be truly said, that the larger number fail to indicate either pleasure or pain, although not excluding these as possible, or even usual concomitants. I do not concur with Mr. Sully in thinking that 'excitement,' barely stated, means pleasure, although the qualified expression 'love of excitement' does undoubtedly imply it; nor can I admit that surprise and its synonyms essentially suggest pleasure. To know whether a surprise is pleasurable or painful, we must view the context; and we are quite prepared for cases of surprise that are not obviously one or other. The state so named has a meaning and a vocation, irrespective alike of pleasurable and of painful accompaniments.

With Roget's lists before me, I am inclined to dispute Mr. Sully's position "that feeling is commonly described in language that points to the distinction of the agreeable and disagreeable". It is only to a small number of the synonyms of excitement that this will apply. Even the leading terms—'emotion,' 'passion'—do not decisively indicate pleasure or pain. What is more to the purpose, they cannot be accepted even as generic terms,

covering pleasure and pain, and excluding states that are neither. I am not aware that the language contains a single term of this import—a defect that we ought somehow to supply.

A few of the terms do undoubtedly suggest something more than bare excitement, as racket, shock, hurry, scurry, worry, bustle, rumpus. As indicating very high intensity, more than the nerves in average circumstances can bear, these are commonly associated with pain. But a great many of them have little or no hedonic meaning—awaken, rouse, blaze up, fire and fury, flutter and flare. A few are decisively suggestive of pleasure, being part and parcel of the expression of pleasure—cheers, hurrah, glorious, exultation; yet it may be fairly contended that the pleasure is rarely equal to the excitement.

Mr. Sully takes advantage of one of the meanings, and perhaps a principal meaning, of the word 'indifferent' as implying a very low degree, if not total absence of feeling. It is not in this sense that I employ it at present, but as the equivalent of neutral. The whole drift of the argument excludes indifference in the sense of the approach to unconsciousness.

I agree with Mr. Sully in his next position, stated under two heads—namely, (*a*) 'pleasurable' and its opposite must stand for all degrees of the quality; (*b*) a mental state is a movement involving a continual change of elements, with fluctuation in the feeling-tone. Neither of those allegations affects my contention, that there accompanies most of our modes of intense feeling a neutral excitement, which remains during the moments when pleasure and pain have alike ceased. In those fluctuations, we do not instantaneously change out of pleasure into pain, or *vice versâ;* we have many moments when neither is consciously present, and yet we are not reduced to mental stillness. Take pleasure. This is the state of all others that needs the most numerous and complicated conditions, positive and negative, for its first production, and still more for its persistence. If at all intense, it is apt to be transient. Yet from the flush of a great pleasure, there survives a voluminous excitement, when the pleasurable tone has completely subsided. Nor is it, that pain immediately replaces the pleasure. Under certain circumstances, as when we are forcing the stimulus of pleasure too far, we come upon pain at last; but there may have been a considerable interval of neutrality.

Suppose, again, a very painful excitement—as a fright, an affront, an announcement of loss or misfortune. The pain is apt to be most acute at the first moment. The vigour of the system, or some change in the current of the thoughts, may eventually overcome it, but the excitement does not thereby subside; it may last for minutes, or even hours, independent altogether of occasional recurrences of the pain, or occasional touches of pleasure from other causes.

Mr. Sully dwells largely upon the case of surprise, and that

very properly, seeing the stress that I myself have always laid upon it. That a surprise is a shock or momentary disturbance, I can readily allow. That this begins in pain and turns to pleasure, may be true of some surprises, but I could not receive it as a general statement; nor can I see much force in describing the whole experience as a transition; of course, it is a transition to begin with, but the subsequent stages may be extremely various. The surprise of an unexpected piece of good luck begins as pleasure, and goes on as pleasure, so long as the forces of the mind are able to sustain it. So, *mutatis mutandis*, with pain. The most typical form of surprise, as it seems to me, is the sudden advent of something so entirely strange that we cannot interpret its consequences at all, but yet imagine that it has consequences. The appearance of comets in the middle ages usually caused painful surprises; the appearance of the new star to the crowd that Tycho found watching it was probably mere bewilderment.

I can readily grant, however, that a rousing effect of the kind supposed, although containing no clue to either good or bad influences, might not long be absolutely neutral: the movement of the thoughts would probably lead to conjectures of a distinctly pleasurable or painful sort; while, owing to the want of a decided indication in one of the two directions, there might readily be frequent transition from one to the other, and, from the very fact of such transitions, there would be moments of hedonic neutrality. How, then, are we to describe the state previous to any determination in either way, or in the neutral moments when one of the two opposites was giving way to the other, or finally when the mind ceases to toss between the two? Does anybody pretend that, because neither pleasure nor pain is predominant, or consciously present, we therefore relapse into quiescence, or into the *status quo ante?* If not, recognition must be accorded to a certain form of excitement that pleasure and pain, save as conditions, have nothing to do with.

Mr. Sully next adverts to the movement of mind in plot, and in anticipating results not yet realised. That this state contains moments of pleasure or pain, and frequent transitions from one to the other, is unquestionable; but the admission leaves undecided the existence of intervals where neither is traceable in consciousness, and also the proportion between the pleasure and the pain, pure and simple, and the totality of the mental agitation.

The case of nervousness and timidity in appearing before an audience is as pure pain as can well be. Yet here, as everywhere else, the pain may disappear, but not, therefore, the excitement.

I can readily concur in Mr. Sully's remark that such states of emotional excitement may be regarded as mixed states. They often are mixed; but the elements in the mixture are not confined to pleasure and pain. His analogy to fear and pity in

tragedy, gives no enlightenment; that being a more complicated problem than the one now before us.

Mr. Sully devotes a paragraph to indifferent *sensation*, which no doubt deserves a treatment apart. Although not, as I conceive, generically contrasted with neutral emotion, yet being at a much lower degree of intensity, it has least of the emotional, and most of the intellectual, in its operation. In every one of the senses we have certain sensations markedly pleasurable, certain others markedly painful, and a very large class that are markedly neither. A moment's reflection on touch or hearing will afford ample confirmation of this statement. Mr. Sully is inclined to believe that all sensations are fitted to please or displease, but owing to the effects of repetition, inattention, and so forth, we grow insensible to their effect. Seeing, however, that under every one of the senses there is a pleasurable class and a painful class that resist all such influences, I cannot accept this as a sufficient account of those that are permanently indifferent. A more likely hypothesis would be that they are balanced and mutually destructive mixtures of pleasure and pain, a view that has been advanced with reference to neutral excitement at the emotional pitch. This, too, has its difficulties, which I do not stop to consider.

These neutral sensations are, in practice, mostly neglected or overlooked. When turned to account, it is as signs or significant adjuncts of important meanings. Their indifference as pleasure and pain is in their favour, intellectually; attention is directed exclusively upon their discrimination or individuality, on which reposes their value as signs.

Mr. Sully indicates as proper subjects for determination the following: namely, how to define Excitement; how it is to be distinguished from quantity of consciousness—from intensity and mass of sensation, or rapidity of thought; whether it is anything more than the higher degrees of intensity of feeling itself. I quite agree in all this. My object is to show, by way of preparatory clearing of the ground, that excitement, however it may be defined at last, is not coincident, although often concurrent, with pleasure or pain. If I concede that it is nothing more than the higher degrees of intensity of feeling, it is because I think that feeling, in all its degrees, possesses not two, but three distinct modes.

I now offer a few remarks on Mr. Johnson's paper, No. 49, p. 80. His conclusions are so near to mine, that I might dispense with a review of his arguments, but for their indirect bearing upon one vital aspect of neutral excitement, namely, the way that it operates on our activity.

Mr. Johnson commences his paper with a criticism on what he calls my "unfortunate" phraseology in laying down my position, and on my whole statement of the fundamental elements of mind. His illustrative parallel from a fictitious supposition in

physical science I need not repeat. Suffice it to say, that he regards the three divisions of mind as related constituents in the same way that shape, size, and weight are related in material bodies; while, in my treatment (in common with that of Hamilton and Mr. Sully), they are made separable or detachable, just as if the shape of a table could be separated from its size and weight. This allegation involves two things:—first, that the psychical elements are related as here supposed; and, second, that Hamilton, Mr. Sully, and myself treat them as susceptible of being divided. Of course, it is enough if I speak on my own behalf.

Another charge, involved in the foregoing but formulated separately, is that I make a confusion by dividing the *subject-matter* of Psychology under the head of *states of mind*. I wish to clear this up before facing the main charge. It seems that while Psychology may well treat of Feeling, Knowing, and Willing to a great extent separately, states of mind "cannot be classified into Feelings, Cognitions, and Volitions". Now this seems to depend upon the meaning of the word 'states'—whether it contains an intractable signification such as to render its conjunction with 'Feelings,' &c., absurd. Now, it may not be very felicitous or instructive to call feelings 'states,' but an absolute incompatibility between the meanings of the two words is what I cannot discover. The word 'states' has a vagueness that seems compatible with anything; this may be an objection to it, doubtless, but of a quite different sort. To my thinking, it is about the most harmless word in our vocabulary. I am aware that Mr. Ward had previously objected to its being used as describing the fundamentals of mind; but I was able to answer him from his own mouth, by quoting a passage where he uses it precisely as I am found fault with for doing, and just under the same stress of circumstances, namely, the need of using, at the outset, terms that were familiar and suggestive—"the three *states*, modes, or acts of this subject". It may very well be that my treatment of the fundamentals of Psychology is erroneous and confused; but, if so, a more drastic prescription would be required than merely to disuse the name 'states'.

But the really serious matter is the relation of the three mental elements to one another—whether or not they are inseparable like shape, size, and weight in a material body. I would first point to one failure in this comparison, namely, that the shape of a body can be changed to any extent without involving any change of size and weight, as in handling dough. It is true that change of size would lead to change of weight, *pari passu;* but by choosing a different triplet—shape, size, and colour—the independence would hold throughout.

Now, assuming for the present that Feeling, Cognition, and Will are as inseparable as shape, size, and colour, we must also allow this difference:—An increase in the intensity of Feeling

modifies at once the other elements, it may be to increase them, or it may be to diminish one or other of the remaining two; while it changes the whole direction of their activity. We should try, therefore, to get an analogy that holds in this particular.

Something approaching to the desired case is found in organic life. It is a congeries of functions, not one of which can at any time be removed. Yet while some, as the circulation and respiration, may not be suspended for the shortest interval, others can be in abeyance for hours together, as the digestion, the action of voluntary muscles and of the brain. Now the inter-connexion of these functions is such that any change in the one affects, more or less, the whole, exactly as with the three powers of the mind.

Another analogy would be the body politic, which has certain functions that can never be renounced, as defence, law, administration; yet their exercise may be in temporary abeyance; while any unusual activity in one affects the general balance.

So it is with the Mind. The three fundamentals so often mentioned are essential to our mental being; their implication is so close that the exercise of the one affects the others; and yet it may not be allowable to say that all the three must be in activity whenever one is.

I have stated more than once my view of the co-essential implication of the three powers; while objection has been taken to the qualified terms made use of. Thus I have said—"The three functions of the mind are so interwoven and implicated that it is *scarcely, if at all possible*, to find any one absolutely alone in its exercise". Now, on the supposition that the triple combination of shape, size, and colour in material bodies is a correct analogy to our case, the apparent hesitation is manifestly absurd. But I dispute the soundness of the analogy. I maintain that, instead of forcing a resemblance to the composition of a piece of matter, we must look at the mental processes themselves, and see how far, and with what limitations, all the three powers can be said to be essentially present in every exercise of any one of them. We could not apply the material comparison to the human body, or to the body politic, although these are organic unities in the fullest acceptation. At every moment of our life the human organs are all present, but not all active; and our language should take note of this circumstance.

Possibly the psychical union is not exactly met by this comparison either; although it may have some points of resemblance not possessed by a piece of matter. Indeed, I doubt if there be any analogy so close as to be reasoned from, without special regard to the facts. In such a science as ours, extreme statements are to be guarded against; involving, as they are apt to do, fictitious entities and strained interpretations.

In these circumstances, I repeat, the only safe alternative is to make our case a law to itself. An accurate examination of the

three constituents of mind, in their actual workings, will show us whether or not they must all be co-present whenever one is operative. For example, there is no analogy to meet Hamilton's doctrine of the inverse relationship of feeling and thought. It might be rudely figured by the correlation of physical forces; under which any single force, say heat, is developed at the expense of some other, according to a definite numerical proportion; but the relationship supposed may not be so strictly an affair of loss to one and gain to the other member of the reciprocal couple.

Whether, of the three great fundamental powers of mind, one alone might be active, while two are in abeyance, or two active, with the third in abeyance, in contradiction of the material analogy, may not be an easy question to answer in the affirmative, while there would be a great hazard in answering it with an unqualified negative. If we take an example from momentary efforts, I can see plausible grounds for affirming that a single power may operate in isolation—that we may for an instant be feeling and nothing else, or intellect (say discrimination) and nothing else. I fully grant the difficulty of isolating one of these two modes absolutely for any length of time. But now, if the case is put, May one be in abeyance while two are operative? I can adduce reasons for maintaining that such a case is possible. The consideration of the point will be the prelude to an important phase of our general discussion.

I will first, however, illustrate the difficulty on the narrower ground of the Intellect, taken by itself. I assume that Intellect is resolvable into the three ultimate facts—Discrimination, Assimilation, Retentiveness; and I ask whether, and how far, these three must be co-present with every exercise of any one. While it would be unsafe to hold that a momentary effort of one is impossible, without the presence of the two others. I fully admit that the three cannot be long in separation. Every act of discrimination is, I should say, accompanied with some effort of assimilation, although the two are not co-equal in each case. In some cases, discrimination takes the lead, and in others assimilation. I would maintain further, that. these being conscious processes, they are accompanied, not through logical implication, but through an empirical law of the intellect, with retentiveness. There may be circumstances where this last effect is zero, without apparently destroying the others, as in the last stage of senile brain-weakness; but still the limit thus imposed applies only to new impressions, and not to the old; for, in order to resuscitation by similarity, the brain must still be tenacious of the past. To put the matter otherwise: I would maintain that, so long as the mind is capable of one of these three modes of intellectual exertion, it is capable of the others; and, further, that any special effort of one, although the prominent fact of the moment, draws the others in its train. The nearest approach to

isolation is found under similarity; being the case where we are struck with an identity between something present and something past, but cannot recall that past in its actuality. This instance is enough to warn us against extreme statements as to the absolute inseparability of the essential components of mind.

But the important issue is to be found in connexion with mind as a whole. Can we rightly hold that the three divisions of mind—Feeling, Intellect, Will—must always be co-present whenever one is in operation? I apprehend that it will take a very great stretch of asseveration to uphold such a thesis. It may be difficult to maintain that one of the three can operate in absolute singleness; it will not be so difficult to show that two can be at work without the third.

The case for Feeling acting alone is not strong. We may, it is true, be almost wholly absorbed with some pleasurable or painful feeling, but not without some exercise of intelligence in the shape of discrimination of degree, and certainly not without instigating the will. Under a voluminous, happy, contented feeling, as in the warm bath, the will may be virtually in abeyance, but it is within call in case of an interruption, or a suggestion of possible increase, in the pleasure.

A better case is afforded under Intellect. The intellectual trains may go on for a time, with no appreciable feeling, and no stimulus to the will; although both the one and the other are very readily awakened into co-operation. I do not mean to argue either of these two suppositions. What is important for the present discussion attaches to a different position.

It is admitted on all hands that the motives to the will are properly and characteristically pleasures and pains. This leaves open the question whether the neutral states can operate in producing actions. I maintain they can, but in a different way, namely, through the tendency to act out an idea. I have always kept this tendency apart from Will proper, because I consider that there is no community in the *modus operandi;* at least, the distinction of the two is so considerable and important that they ought to be placed apart in our psychological scheme.

Whether both the phenomena may, or may not, be explained under the common exercise of Attention upon motor ideas signifies little, if the antecedent circumstances are distinct in nature. It is one thing to give way to a pleasure, and another thing to give way to an excitement that is not pleasure. When pleasure ends, its motive power as such ends; and any action then arising must be due to some other principle.

I am well aware that Mill took a different view of motives, and held that nothing could prompt to action but pleasure and pain. In Mr. Ward's "Psychological Principles, iii.," in MIND No. 45, passages to this effect are quoted; and I have had occasion to notice his theory of disinterested action as proceeding on the same supposition. Of course, I differ from him widely; but, with

such an authority against me, I must not run away with the notion that my present contention meets with unanimous approval. I cannot, however, attempt to argue the point, as would be necessary for convincing the unconvinced. I must be content, for the present, to adduce the most cogent example of our being led away by the influence of an idea, irrespective of pleasure or pain, namely, Imitation. If anyone can explain this by the recognised operation of the will, under hedonic influences exclusively, I will surrender at discretion. It is true that not many forms of neutral excitement give such a definite course to the thoughts as the infectious displays of another person, whether to the eye or to the ear, and hence the impulse to act out an idea is not always apparent. Some forms of excitement contain nothing definite, as physical drugging; the operation of such states is then limited to engrossing the consciousness and obstructing the entrance of repugnant objects or thoughts. Others are between those two extremes, as when witnessing physical agencies—a conflagration, a rush of water, a steam engine at work, a deep chasm or precipice. When excitement is caused by over-study of one thing, the morbid persistence of the thoughts is not will, but rather the defiance of will.

It is, in appearance, a question of nomenclature, but, in reality, a question of the amount and importance of the agreements between these two distinct modes of inducing activity. The difference has already been emphasised, but regard must be had to one great point of similarity, namely, that in the operation of the typical will, under pleasure and pain, there is also present the acting out of an idea. One element in volition always is the preconceiving of the act to be performed; which conception coupled with a motive leads to the performance. Whether this typifies the initial stage of will, before definite movements are associated with definite wants or gratifications, I consider very doubtful. But, it may be said, the same doubt would apply to imitation also in its purely impulsive form, that is, with no motive of the voluntary kind.

Putting aside these disputable matters, we have still the important distinction between a hedonic and non-hedonic antecedent; which seems too serious to be slurred over or set aside. Accordingly, I am in favour of keeping the term Will to the hedonic motive. Pleasures and Pains are the true motives; their generic character would be expressed by calling them Will-Feelings. Action under fixed ideas concurring with excitement would not be Will. Yet as we cannot create a fourth division of Mind, the difficulty is to find their place. Of the two alternatives, I would fix upon Cognition, or the realm of Ideas, one of whose incidents it is to tend to actualise themselves as a part of their very nature; the determining circumstance being intensity of hold, a character possessed by them without their losing caste. The accompanying excitement may properly be said to be a mode

of feeling; or rather it is a facing-both-ways condition, whose result is a special form of activity. If it is not cognition pure and simple, it is cognition raised to a pitch of fervency, which the thoughts can always assume without being disqualified for the cognitive function.

These remarks are my answer to Mr. Johnson's challenge to vindicate the assertion, that the elements of mind are not necessarily all operative at the same moment. I hold that Will, in my sense, may be decisively in abeyance for a length of time; namely, during those periods, of frequent and protracted occurrence, where neither pleasure nor pain is sufficiently pronounced to affect the conduct. I do not include in Will the routine operations of habit, although, of course, the motive to these, in the first instance, has to be traced back to some voluntary impulse. It happens often in nature that a movement may be set going by some adequate impulse which is then dispensed with.

The same observations are applicable to Miss F. A. Mason's criticism (No. 50, p. 253), so far as concerns her theory of volition. She also puts much stress on the production of neutrality by equal opposing intensities of pleasure and pain. I do not deny that such neutralising compounds are possible and likely. As the result is not zero, but a highly excited mode of consciousness, it still concedes my position. I am not disposed to look upon such mixtures as the only case of neutral excitement; the explanation, I suppose, is valued as saving the hypothesis of the essential hedonic quality of all our primitive modes of feeling.

Before closing this long review of the matter at issue, I wish to advert to the bearing of the subject upon another controversy, namely, the genuineness of our malevolent pleasures.

One way of evading that unpalatable doctrine is to produce our love of excitement as such, that is, neutral excitement. To say that, in this case, we love pleasant excitement would concede the pleasure of malignancy; to say that the excitement is neutral refuses to it the power of a motive. Neutral excitement would partly account for the contagion of crimes; that being a case where an idea realises itself in opposition to the will, and without being essentially pleasurable. The love of horrors and sensational crimes, tragedies and the like, may be a love of excitement, but not neutral excitement.

"THE PSYCHOLOGICAL THEORY OF EXTENSION."

I. By Prof. William James.

Since even the worm will 'turn,' the space-theorist can hardly be expected to remain motionless when his Editor stirs him up. Had I seen my July Mind earlier than I did, these remarks would have been in time for the October number. Appearing in January, I can only hope that the reader may not regard them as reviving an issue that is stale. The Editor, in his observations on "The Psychological Theory of Extension" in No. 51, made, as it seems to me, some *admissions* that ought to be recorded, as well as some *assumptions* that ought to be questioned, in the interests of clear thinking, in this dark field. One admission (if I rightly understand page 420) amounts to nothing less than giving up the whole positive and constructive part of the Brown-Bain-Spencer-Mill theory of Space-perception, and confessing that the criticisms usually made upon it are fatal. That theory contends that a variety of intensive elements can, by grouping [association] assume in consciousness the appearance of an extended order. "How is the transformation to be effected? or rather, can it in any way be effected?" asks the Editor. "I do not know that it can," he replies, "if sought for upon that line." As the account of Space-perception by these authors is usually reckoned one of the greatest triumphs of the Analytic School of Psychology, this defection, by a writer whose general tendencies are loyal to the school, is worthy of emphatic notice. The Editor's second admission is, that, if we could suppose ourselves reduced to the eye with its exploratory movements as our sole and only means of constructing a spatial order, such a construction might come to pass (p. 424) — an admission quite at variance with the widely prevalent notion that analytic psychology has proved the space-perceptions of the eye to be but reproduced experiences of touch and locomotion. So many doctrines reign by the mere inertia of supposed authority, that when, as in these two points, the chain of authority gets broken, public attention should be drawn to the fact.

The chief *assumption* of the Editor's which I wish to question is his proposition that, although experiences of an intensive order will not by *themselves* acquire the extensive character, they will yet, if so experienced as to be referred to an *object* (in the sense of "bare obstacle to muscular activity of a touching organ"), begin to assume that character. If we construe this view definitely, everything about it seems to me questionable. Either the obstacle feels big originally or it does not. If it have originally no bigness, the same difficulty arises which the Editor admits to be fatal to ordinary theory: how can intensive elements be transformed into an extensive result? If, on the contrary, the obstacle have a sensible bigness, then, of course, that would explain how the touch of it, the look of it, or any other sensation

which the mind incorporates in it, should share the bigness and appear itself extended. But then the question would arise—Why on earth should this feeling of muscular resistance be the only one which originally comes to us with a bigness? What grounds *a posteriori* or *a priori* can we show for assigning to it so pre-eminent an advantage, in the teeth of all the spontaneous appearances, which make us feel as if the blueness of the sky were spread out in itself, and as if the rolling of the thunder or the soreness of an abscess were intrinsically great? But the Editor keeps his whole account so studiously and cautiously vague that I confess I find it hard to construe his obstacle-object as definitely as this. It must, he says, not be treated as external "at the outset," for the mere experience of resisted muscular activity is analysable into elements "which are found to be merely intensive—intensity of passive touch varying with intensity of effort" (p. 421). Nevertheless touch and effort are so related as to "suggest a cleft in conscious experience, which has but to be widened and defined for the opposition of self and not-self to be established". It is when referred to the "not-self" of the experience thus defined that the originally intensive qualities of touch, look, sound, &c., begin, according to the Editor, to appear extended, and finally become more definitely extended in proportion as the resisting body gets more definitely to seem external.

Such accounts, however vaguely expressed, are indubitably true, if one goes far enough back in time. Since things are perceived later which were not perceived earlier, it is certain *a priori* that there was a moment when the perception of them began; and we are, therefore, sure in advance, of being right, if we say of any perception that first it didn't exist, and that then there was a mere suggestion and nascency of it, which grew more definite, until, at last, the thing was fully established. The only merit of such statements lies in getting them historically exact, and in determining the very moment at which each successive element of the final fact came in. Science can never *explain the qualities* of the successive elements, if they show new qualities, appearing then for the first time. It can only name the moment and conditions of their appearance, and its whole problem is to name these aright. Now, we probably all agree that the *condition* of our perceiving the quality of bigness, the extensive quality, in any sensible thing is some peculiar process in our brain at the moment. But whereas, in the articles which the Editor criticises, I maintained that the *moment* is the very first moment in which we get a sensation of any sort whatever, the Editor contends possibly that it is the first time we have the feeling of resisted muscular effort, but more probably (as I read his text) that it is much later in the day, after many sensations, all purely "intensive," have come and gone. In my articles I have given (with probably far too great prolixity) the grounds for the date which I assign, and criticised the grounds given by Wundt and

Helmholtz for the later one which they prefer. I miss in the Editor's remarks (as in all English writings upholding the same view) any attempt at explicit proof that the earlier date is impossible, and that sensations cannot come with any apparent bigness when they first appear. May not the supposed impossibility be rather an assumption and a prejudice, duē to uncriticised tradition? If there be definite reasons for it in the Editor's mind, I hope sincerely that he will publish them without delay. But if, on the contrary, a mere dim bigness *can* appear in all our first sensations, then the date of its appearance is most probably then; for discriminations, associations and selections among the various bignesses, occurring later on, will perfectly explain (as I have tried to show) how the definitive perception of real outer space and of the bodies in it grows up in the mind. Eye-experience, touch-experience and muscular experience go on abreast in this evolution, and their several objects grow intimately identified with each other. But I fail to see in this fact any reason for that *dependence* of the visual space-feelings "on a tactile base," such as my critic in his last paragraph seems to find. One who asks a blind person to compare pasteboard angles and the directions of their sides with each other, and who observes the extraordinary inferiority of his tactile perceptions to our visual ones, will be very loth to believe that the latter have the former for their base.

I am at a loss to know who the Editor means by the theorists ("space-theorists generally," he calls them) who commit the mistake of "seeking for an extension that is extension of nothing at all". Certainly this mistake cannot be imputed to anyone who, like myself, holds extension to be coeval with sensation. The matter of the sensation must always be there to fill the extension felt. The extension is of the warmth, the noise, the blue luminosity, the contact, the muscular mass contracting, or whatever else the phenomenon may be.

Still other points do I find obscure in the Editor's remarks—obscure, I am sure, from no other reason but the brevity to which he has confined them. May he be enabled soon to set them forth at fairer length!

II. By James Ward.

Though on the first appearance of the Editor's criticism of the theory of space-perception upheld by Prof. James and myself I did not fail to take his strictures duly to heart, it seemed then better to leave the reply to Prof. James as one not only more able than myself to take up the cudgels in its behalf, but as one also with more claim to reply in this place; inasmuch as the preceding volume (xii.) of Mind is adorned by his long and masterly expositions of the theory. Moreover, I had then some hopes of following suit on my own account with a new state-

ment of the case thus ably propounded by my "ally" at that other Cambridge over the water. But *Dis aliter visum*, and my one chance seems now or never.

I propose then, first of all, to clear up one or two misunderstandings of my positions as put by the Editor; and afterwards, in the course of an examination of his theory, to make my own standpoint plainer.

To begin, I have certainly not consciously "followed the German lead in this matter" (p. 422). If we divide psychologists as regards this question into two camps—let us say, for brevity, Intensivists and Extensivists—then both Herbart and Lotze will be on the Editor's side and not on mine. Though I have used Lotze's phrase "local sign," and owe a great deal to its suggestiveness, yet the sense in which I have used it is one that he would repudiate. In like manner I have been impressed by Herbart's doctrine of presentational series and the interweaving of such series; but I have long seen the hopelessness of attempting to construct space by means of them, although they help us materially in trying to understand the intimate blending of the spatial elements implied in that almost instinctive localisation or projection of impressions to which I have referred (*Encyc. Brit.*, p. 53b, p. 55a *fin.*). The expositions of Prof. Bain and Mr. Spencer are, I take it, a great advance on Herbart, and my own views have resulted from pondering over these—pondering over them, no doubt, in the light of Herbart and Lotze. In particular, that one sentence of J. S. Mill's, which I have quoted (p. 53b, *note*), "The idea of space is at bottom one of time," forced me very reluctantly to forsake the Intensivist side.

On the Editor's view it is essential to a psychological explanation of Space to recognise the historical priority of the experience of body as resisting: with this intensity to start from and to work with, he believes that other intensities may gradually constitute it into Body as extended. He therefore finds it a fatal objection to my well-meant endeavours that I have "completely reversed the order of explanation" which he maintains "to be the natural and effective one". I agree with the Editor not only as to the importance of right order in what we might perhaps call psychogeny, as in all genetic sciences; but I agree with him, moreover, in the particular case:—the perception of body as resisting is, if anything, more fundamental than the perception of body as extended. But there is really nothing in my exposition incompatible with these admissions. Having to deal with three senses of perception, *viz.* (1) the recognition of an impression, (2) the localisation of an impression, (3) what I have called "the intuition of a thing," I had to deal with them in some order; and the order in which I have now mentioned them seemed the best. Still I have not omitted to insist at the outset that these are not three distinct stages, and that their actual separation is impossible (*Encyc. Brit.*, p. 52b). Under

the second head I have never treated of "an extension that is an extension of nothing at all" (p. 422), but of the localisation or projection of impressions, and have referred to the body as "probably affording our earliest lesson in spatial perception". I have also (*Encyc. Brit.*, p. 54a *fin.*) very explicitly, but of necessity very briefly, exposed the blunder of assuming that space is "an extension that is an extension of nothing at all," to repeat the Editor's words; or, as I have put it, that space is "in some sort presented apart from the localisation, projection or reference of impressions to such space". Finally, when treating of the complete fact of intuition, I have said: "Here our properly motor presentations or 'feelings of effort' come *specially* into play. They are not entirely absent in those movements of exploration by which we attain a knowledge of space; but it is when these movements are definitely resisted, or are only possible by increased effort, that we reach the full meaning of body as that which occupies space. . . . Things are only presented when touch is accompanied by pressure. . . . It is of more than psychological interest to remark how the primordial factor in materiality is thus due to the projection of a subjectively determined reaction to that action of a not-self on which sense-impressions depend." And so far from "keeping back" all this till the later stage, "at which an account of substantiality might be given," I have mentioned it first of all among the constituents of what is "real". The exact drift of the censure administered to me for my very inadequate treatment of substantiality is not clear to me. But, lest the Editor or his readers should suppose that I identify "body as resisting" with substance; it should be said that, according to my view, filling space is but *one* property of what Locke called material substance, and that a psychological account of substantiality has to show how this "primordial," "invariable," "universally present" property attains that supremacy which was to Locke such a puzzle. Had I confused the occupation of space with the substantiality, to which I refer last; or had I maintained that we gain any knowledge of space before or apart from our experience of resistance; I should then have been guilty of the ὕστερον πρότερον I am charged withal. All the same, I confess that if it had occurred to me that so much depended on perfect clearness on this point, I should have striven to be yet more explicit. And this admission brings me to the Editor's own doctrine, on which I will venture a few remarks.

What I take to be the Editor's position is this:—We have three kinds of data—(1) Certain intensities, *viz.* (*a*) Muscular sense "understood in its purity as 'sense of effort'": to 'feelings of movements' he holds it right to object, "since 'movement' plainly presupposes 'space'"; (*b*) tactile and ocular sensations, and possibly others not specially mentioned. (2) "Certain laws of intellectual grouping under which the sense-elements" [*i.e.*, I presume, the preceding intensities] "are supposed to be worked

up"; or, failing these, some "psychological operation" of "aggregation" not further described. (3) The consciousness of a not-self as opposed to self, to which we gradually attain through the experience of resisted muscular activity. Given these data, the problem is: "How a variety of *intensive* elements can come to assume," or be "transformed" into, or be "got to acquire, the extensive character".

Now, interesting as it might be to see at once how this formidable problem is solved, it will be more in order first to examine the account given of the materials involved in it. To begin, it is to be noted that nothing is said of what I have called Extensity, and what Prof. James, for reasons which I cannot divine, prefers to call Extensiveness. The fact is, the Editor regards this conception as what Germans happily style a *Nothbegriff*, a sort of jury-mast that betrays at once our distress and our "psychological impotence". This is a point to challenge. Apart altogether from any "derivation" of space, there is a respectable body of evidence for the existence of this characteristic of all sensation; evidence, too, that shows it to be in all respects co-ordinate with intensity and protensity. If extensity had never been heard of except in connexion with theories of spatial perception, it might be open to more suspicion; but as things are, it cannot be simply put aside as "an assumption that is perilously near to the very fact of extension to be explained". There are, as regards the data of the problem, two things to do, and the Editor has done neither of them: the one is to examine this fact of extensity; and the other is to analyse the perception of space, as it now is, to see what elements it logically implies. Anybody who will seriously attempt this inquiry will find it hard to get rid of extensity, whatever may be his views about space; and he will find too that extension and extensity differ after the same manner as extension and the perception of extension,—which last, I presume, the Editor does not regard as extended, albeit it is the fact to be explained. Psychologists who, like the Editor, adopt the intensivist doctrine, assume that those intensive "elements," which come to be grouped according to intellectual laws, are from the first, in some way which is never made clear, merely detached particulars:—feelings of effort, k_1, k_2, k_3 . . ., ocular sensations *r*, *g*, *y*, *b*, &c., and tactual sensations in like manner. To this atomistic psychology there are the gravest objections, both rational and empirical, both psychological and psychophysical. I have handled this matter at comparative length in an earlier volume of MIND (viii. 478-9), as well as in the article now in question (*Encyc. Brit.*, pp. 45b, 46), and I cannot see that it is worth while to criticise my endeavour to explain spatial perception if this more fundamental topic is left aside. The definiteness and detachment of sensations which make them possible elements for intellectual grouping belong to a late, not an early, stage in mental development; and they presuppose, unless we cheat ourselves

with metaphors, an underlying continuity which is certainly not a coexistence-in-time brought about "through repetition, reversal, &c.". That this presentation-continuum or *totum objectivum* is not itself extension is obvious from the fact that it is presentational. To identify it with extension would be to connect it either with the whole of space or with some definite part of space; to regard it as having no proper unity and as capable of indefinite subdivision; and to allow either that material bodies could penetrate it or be prevented from penetrating by some repulsive force. Though psychologically distinct from intensity, it still remains psychical for all the reasons that make intensity so. We do not feel perilously near to confounding the physical and the psychical when we talk of "the mental stream flowing on in time," or allow that psychical intensities and complexities increase and decrease with physical intensities and complexities. But as to the question whether extensity contains already all that is implied in the *idea* of extension, this can only be answered by analysing that idea as it is now; and I venture to say that every theory of spatial perception is worthless that leaves such analysis out of account. It must suffice here to note two points:—Space implies (1) a coexistent continuity of positions, which as such can only be distinguished by qualitative differences, and (2) a characteristic relation between position and position, which is not merely distinctness but distance, apartness. Now extensity gives us only the ground for the first of these, so that, as it seems to me, without muscular movements *in conjunction with* the qualitative differences that make positions distinguishable, we should never know those positions as distant. A comparison of our organic sensations with our active touches would fully bear this out.

But the Editor, as we have seen, expressly omits muscular movements as distinct from sense of effort, because 'movement' plainly presupposes space. Movement, past all question, presupposes space, but *feelings* of movement, in the sense of auxilio-motor objects, psychically regarded, occur only in succession, and so far implicate nothing but time. A theory of space in which these are either omitted or identified with mere feelings of effort or resistance is certainly needlessly crippled. It is the necessarily temporal character of these presentations, taken *along with* the primitive and essential coexistence of our local signs, that to my thinking first makes spatial perception possible. I say "primitive and essential" because a coexistence that is derived from "repetition, reversal, &c.," after the fashion of Herbart or Spencer, seems to me to presuppose that very extensity it is meant to supersede; in other words, the perception of time itself does not seem possible without a presentation-continuum characterised by extensity. Extensity, protensity and intensity, in fact, seem as inseparable psychically as are space, time and motion physically. But to return at once from what might easily become a lengthy digression. Two feelings of movement, then, of the same series cannot

be coexistent, and their order is invariable. Our feeling of being embodied, on the other hand, is always an extensive feeling, and the local signs into which it may be more and more differentiated are always in some sort coexistent and invariable. The one affords us the relation of distance, by itself and primarily a fact of time; the other affords us the places or positions which must be not only distant but coexistent and distinct.

And now let us try to see how the problem is solved without either of these; but for my own part, I must confess the more I ponder it the less I see. It is more than likely, therefore, that the peculiar merit of the solution has escaped me. If I venture, spite of the obscurity in which I find myself, to urge difficulties, it is only in the hope that their statement will ensure their removal. All seems to turn on muscular efforts, in themselves intensive, taking the lead and securing a 'something' presently to become extended. Thus, and thus only, it is held, can the difficulty be surmounted of "construing as extension" the various time-clusters, also in themselves intensive, that are had in connexion with that resisted muscular activity. It is almost as if one said: You cannot actually have form till you have stuff to be formed, and thence concluded that when the stuff is secured it can be "transformed" or "got to acquire" or "can come to assume" the requisite "character" without more ado. Having got his object = obstacle, the Editor seems to leave all the rest to—well, I suppose we had better say—mental chemistry; since that is at least a respectable phrase. Laws of intellectual grouping are indeed mentioned among the "usual data"; but, to judge from the respect with which Kant's analysis is spoken of, it is doubtful whether the "psychological operation" here intended is intellectual after all. But, though we are provided with no details concerning this operation, the language in which the process is referred to is remarkable. We are not shown how the presentation or intuition of Extended Body emerges as a psychological fact: we are only told that—by "reference to," or on the "suggestion" of, this basis of object = obstacle—experiences in themselves intensive "*begin to appear as*" or to be "*construed as*" or to "*be interpreted as*" Extended Body. Such language, it seems to me, implies the independent possession of the very thing to be constructed or derived, and begs the question a thousand times more than any admission of extensity as a factor can do. The problem is not one that can be solved by an '*as*': that very innocent-looking particle carries us beyond "the psychological ground" to which the Editor very rightly intends to confine the question.

But, now, why is that basis of object = obstacle after all so suggestive? "Intensive experiences continue always to be referred to the subjective mental stream" we are told; and this sense of effort is an intensive experience like the rest, till it is "construed as external object". "The first beginning must

take place somehow;" it is most "natural and effective" to say that it took place thus. To me this seems like cutting the knot, not untying it. In much the same way as Lotze showed the insufficiency of the Herbartian "repetition reversal, &c.," to afford spatial coexistence,—I mean by citing the case of sounds; the insufficiency of merely intensive resistance to "suggest a cleft in conscious experience" might be shown, *viz.*, by citing the case of "mental" efforts. For these are psychologically—so far as I see—quite on a parallel with muscular effort, when that is regarded merely as intensive. Surely the thing to be constructed slips in here ready-made; at least, as far as I understand the Editor's exposition, it does so. He tells us in one place (p. 423) that "we first, through simple and direct effort put forth, get some kind of vague notion of body as resisting". And elsewhere (p. 421) he apologises for using 'external,' although he does not mean external and only uses it "for the sake of definiteness". Till the obstacle is extended it is not *body* as resisting; and till it is both external and extended it is not in any sense a not-self. Moreover, self is extended and must be known as such before not-self can be so known. But it is really a hard case, for do but grant *body* as resisting in ever so "vague," "shadowy" and "indeterminate" a way, and all the rest will soon follow: the cleft "will be widened and defined," and we shall very soon find ourselves distinguishing "this and that extensively within such body". I remember as a child being much disappointed that I could not keep one leg in the air long enough to get the other up before the first came down. A very short time would have sufficed, and then, repeating the process, I might have mounted to the stars. But, alas! simple though it seemed, the feat was impossible.

NOTE.—One of the foregoing papers has come to hand too late for it to be possible now to attempt any rejoinder to the series of observations which (beginning with Dr. E. Montgomery's in last No.) have been called forth by my remarks on "The Psychological Theory of Extension," in No. 51. Though I took the liberty of making reference to the different writers who have now replied, it was only with the view of giving more point to my own remarks: certainly, there was no thought of assuming, with such passing references, to sit in judgment on the elaborate work done by the writers, in MIND or elsewhere, on the subject. There is nothing, however, to regret in the result; quite the contrary. While occasion has been taken by more than one of the writers to give important elucidation of views previously published, it seems clear from all the replies that the original remarks needed much more development, or at least better expression, than they succeeded in getting at the time. As soon as circumstances (which have not, for a good while past, been favourable to sustained effort) may permit, another trial will be made to justify the position taken up in No. 51; and it may then be possible to do more justice to the work of the writers. EDITOR.

"HEGEL AND HIS RECENT CRITICS."

By Prof. Andrew Seth.

In the last No. of Mind, Mr. R. B. Haldane devoted a few pages, under the title quoted above, to discussing the justice and relevancy of certain recent criticisms of Hegel. The "recent critics" mentioned by Mr. Haldane in the course of his remarks were Mr. Balfour, Mr. Bradley and myself, but Mr. Bradley is in the end honourably acquitted, and Mr. Balfour is gently dismissed, while the severest strictures are reserved for my own lectures on *Hegelianism and Personality*. I am treated as a culprit who ought to have known better. It may not be amiss, therefore, if I make a short reply on my own account to Mr. Haldane's remarks.

The gist of these remarks is that Hegelianism rightly understood is a "point of view" or a "method," and not a metaphysical or ontological system. This—"the new method which he elaborated for the investigation of the contents of consciousness"—is "what will remain in Hegel after the world has ceased to dispute about his metaphysics and theology". And from further references it appears that Mr. Haldane considers Hegelianism in this sense to be found in its purest and most scientific form in the first two papers of the *Essays in Philosophical Criticism*, which he and I edited together in 1883. He finds my more recent writing "misleading," because, "while condemning what is bad," it does not "separate out and defend what is good" in Hegel. My main reply to this charge must be that one cannot well do two things at once. I had written of Hegel several times already in the character of a sympathetic expositor, though always with certain reservations and difficulties. I could not say all that over again; it was now the turn of the reservations and difficulties. *Hegelianism and Personality* was professedly a destructive criticism of Hegelianism as a system—as a perfectly coherent metaphysic of the universe. Criticism was bound, therefore, to form the bulk of the book, but at the same time it contains repeated acknowledgments of the permanent value of much of Hegel's work. It is, however, inevitable that all criticism from one occupying a nearly allied standpoint must tend to be misleading, at least to outsiders,—because it of necessity emphasises the points of difference and takes for granted the ground occupied in common. But this is after all mainly a personal question, and so I pass to the philosophical issues raised, endeavouring first to narrow them as far as possible.

First, then, I most cordially agree with Mr. Haldane as to the value of Hegel's work in criticising our categories, and especially in recognising "that those features of experience which Kant relegated to the *Critique of Judgment* and to the ideal region of Ethics were just as much part of experience as the Categories of Kant themselves". The latter is set down by Mr. Haldane as "the great advance which Hegel made upon Kant," and as the

result he got "by turning knowledge to the investigation of its own nature". All these statements seem to me perfectly true. Mr. Haldane, on his part, appears to agree with me in my criticism of the metaphysical systems of Hegel and Green. At all events he sees much that is questionable in their metaphysical doctrine, and is not concerned to defend it. This I gather from the disparaging way in which he repeatedly speaks of those who have not been content to use Hegelianism as a "point of view from which to criticise other modes of thought," but have gone on to use it "as ground upon which to place props for speculations in both ontology and theology". "I admit," he says again, "that Hegel has, after the fashion of his time, gone farther and professed to found a system that savours suspiciously of Ontology. But the point is that, though Hegel and the Hegelians may have committed themselves to this system, it is separable from what comes first in his work and has been adopted by the Neo-Kantians." Now, although such sentences appear to concede the point of my criticism, I cannot help remarking upon the somewhat extraordinary phraseology. Hegel "went on" to found a system that "savours suspiciously" of ontology: surely Hegel's system was to its author from beginning to end an ontology or metaphysic of existence. Every philosophy that is not agnostic or sceptical is necessarily a theory of the manner in which the universe exists; that is the very meaning of a philosophy, and Hegel would have tossed contemptuously aside any theory that professed to do less.

But perhaps it may be replied by a "Neo-Kantian" that this is just the point where Hegel departs from the true principles of the Critical method, and allows himself to be mastered by the old leaven of pre-Kantian Ontologism. The Critical method, as amended by Hegel himself, enjoins merely, it may be said, the continuous criticism of the categories of thought, or, in Mr. Haldane's words, it enjoins "turning knowledge to the investigation of its own nature". It does not begin, therefore, by taking certain existences for granted, from whose action knowledge results. On the contrary, it starts as an immanent criticism of knowledge, and it ends by asserting (in Mr. Haldane's words) "that not only can we not go outside the closed circle of consciousness, but that there is no outside which has really any meaning". In other words, we have an epistemology or theory of knowledge which has been improved by the elimination of the Kantian unknowables; the bounds of the existent and the intelligible are now fixed at the same point. So far excellent. But I would submit that this theory of knowledge or criticism of categories is not the whole of philosophy; it is rather a preparation for the properly philosophical question. When we have completed the criticism of the categories and adjusted them to our own satisfaction, we must (were it even for form's sake) go on to apply our theory of knowledge. If we say, for example: Self-consciousness is the highest and only adequate category of thought,—we are so far making no direct metaphysical statement.

But if we go on to apply the statement and say: The universe is explicable, therefore, only as a self-consciousness which perpetually presents itself to itself as an object and perpetually renews its subjective existence in individual intelligences,—we pass at once into the region of metaphysics, ontology, or philosophy proper. We are no longer dealing with the definition of names but with the question of the actual nature of existence. Evidently, unless a philosophy is prepared with some sort of answer to this question, it shirks its proper task; as a mere theory of knowledge it cannot claim philosophic standing, however acutely the theory may enable it "to criticise other points of view". While condemning previous metaphysical theories, it is bound to make explicit the inferences which are contained in its own criticism of categories, and so to present us with what it considers to be a more adequate, and even definitive, account of the universe. Now I am well aware that Hegelianism, and English Hegelianism in particular, has always shown its chief strength in criticism; and it was long a fair subject of complaint that, in spite of the large amount written by the English Hegelians about Locke and Hume and Kant, it was difficult or impossible to point to any definite statement of their own philosophic creed. But Hegel himself was undoubtedly constructive as well as critical, and in England Green at last stated in different parts of the *Prolegomena to Ethics* a metaphysical position which had been adumbrated rather than expressed in his *Introduction to Hume*. I have criticised that position adversely, but I hold that Green was right—was doing no more than his duty—in thus going on to supply the constructive basis for his own critical work. Mr. Haldane, on the other hand, apparently considers that this was a step astray on Green's part. "If reference is to be made to the works of Green," he says, "his Neo-Kantianism must be looked for in the *Introduction to Hume* rather than in the *Prolegomena to Ethics*." Now this view of Green's two chief works is a fair indication of Mr. Haldane's own attitude throughout his paper. He wishes, its seems to me, to evade the necessity of taking up any metaphysical position at all. He clearly disclaims for himself the metaphysics of Hegel and Green:—"The theory of knowledge becomes in their hands over and over again transformed, as Prof. Seth rightly remarks, into a metaphysic of existence or absolute philosophy, in which a transcendental self, which for this theory has no meaning excepting as the implicate of all experience, is hypostatised first into an absolute subject, and presently into an absolute cause". And again: "Kant declined to identify the logical unity of thought with a divine or creative self; Hegel was under no greater necessity of making the identification". Kant, it may be remarked, did not make the identification because he had, or thought he had, other ready-made realities in stock which served his purpose; but if a Hegelian does not make the identification, what is he to do? Is he to rest content with "the

logical unity of thought" as the centre and basis of his universe? Mr. Haldane's reply is most clearly conveyed in the following sentences: "All that is, is for—not the self which is a particular object in space and time, nor yet any transcendent self, but—knowledge". "We need not and must not assume the existence in any ordinary sense of an absolute intelligence in which thought and its object would be one and the same." Recognising, in short, that Green's theory of a creative Self is not warranted or led up to by his own method, Mr. Haldane hesitates to embrace the other alternative, namely, that the self of the philosopher is the only self of which the method speaks, and endeavours to get over the difficulty by substituting for both the abstract term knowledge: "All that is, is for knowledge". But I am bound to say that the substitution does not seem to me in any sense an improvement. An abstract term must be translated back into its corresponding concrete or concretes before it can apply to real existence. I can understand the existence of things for a knowing self; and, therefore, while I attack Green's position I understand (as well as one can in such matters) what he aims at establishing. But to speak of knowledge which is nobody's knowledge in particular, and to make this purest of abstractions an imaginary focus for which everything exists, seems to me dangerously like an abuse of language. At best it simply disguises the real position to which the ablest and most consistent Hegelians have gravitated, and which appears to be embraced by Mr. Haldane in the last of my quotations. If this position be consistently held, the soul and moving force of the universe is reduced to a self-existent system of impersonal thoughts. I have sufficiently expressed my opinion of this position in the last chapter of my book. The theory only requires, I think, to be clearly stated in order to fall to pieces of its own accord. The main, I may say the sole, purpose of my book was to clear the philosophical atmosphere on this and certain allied points by sifting the ambiguities of the Hegelian statement, and insisting on a definite answer to definite and pressing questions. It is useless to try to parry the questions, as Mr. Haldane does, under the idea of restricting ourselves to a theory of knowledge. His own statements are in the end as metaphysical as those which he would improve upon. It is, of course, perfectly legitimate to give up the metaphysical problem altogether, and to assign to philosophy simply the task of organising scientific knowledge with the aid of improved and duly criticised categories. Neo-Kantianism then becomes a species of Agnosticism, only more philosophically trained than most of the current varieties. In this direction I cannot help thinking that Mr. Haldane's remarks occasionally tend. But if this is the Neo-Kantian position, it ought to be plainly avowed. For, if so, this Hegelianism is not the constructive philosophy it has generally given itself out as being. It offers us in that case no solution of the questions which in every age have been the motive and the end of philosophy.

VI.—CRITICAL NOTICES.

Logic; or, the Morphology of Knowledge. By Bernard Bosanquet, M.A., formerly Fellow and Tutor of University College, Oxford. 2 Vols. Oxford: Clarendon Press, 1888. Pp. xviii., 398; viii., 240.

The alternative title of this treatise on Logic—*Morphology of Knowledge*—concisely indicates the principles and method of treatment adopted. Instead of formal classifications, dichotomies, precisely outlined definitions, we find a recognition of an all-pervading unity in the varied phases of intellectual activity. Yet the unity is not one-sided abstract simplicity, but a unity of function exhibited in diverging and converging growths. In short, the idea of structural and functional evolution is applied to the processes of Knowledge. In the general form of treatment Mr. Bosanquet thus follows in the track of Lotze; but, as we shall see, the two logicians differ considerably in working out the detailed co-ordination of parts. A brief analysis of the contents may be given.

Knowledge involves the ideas of Truth and of Meaning. First, then, "what is the relation between the human intelligence and fact or reality?" I will quote two passages which express the author's mode of treating this ever-recurring problem; because they indicate the spirit in which the whole subject is met, though, of course, a mere quotation cannot give an adequate apprehension of the philosophical position maintained. We read (p. 3): "The forms of thought have the relation which is their truth in their power to constitute a totality". Again: "The truth, the fact, the reality, may be considered, in relation to the human intelligence, as the content of a single persistent and all-embracing judgment, by which every individual intelligence affirms the ideas that form its knowledge to be true of the world which is brought home to it as real by sense-perception". We must note here the *two aspects* of the idea of truth or reality. *Psychologically*, the real "is what is brought home by sense-perception"; *logically*, the real "is what has power to constitute a totality". Of course these two aspects cannot be divorced from one another. The real cannot be *known* except as forming a system; neither can the known be *real* except as assured by perceptive experience (p. 4). Nevertheless, the duality of aspect inevitably arises in any system of philosophy. Logic elaborates the aspect of totality, but it must recognise a reference to "contact with reality in sense-perception". Now, as the author proceeds to point out, there is a contrast between the mere *entertainment* of an idea, as having a symbolic value—*i.e.*, an identical and intelligible objective reference—and the *affirma-*

tion of an idea—*i.e.*, a reference of it to something real. To what is the reference made in the mere entertainment of an idea? The author answers (p. 5): "The world of objective reference and the world of reality are the same world, regarded in the former case as composed of isolated though determined contents, and in the latter case as composed of contents determined by systematic combination in a *single* coherent structure". It does not seem to be clearly shown why the single completed whole should necessarily be identical "with the extension and determination of the individual's *present perception*". Yet it seems that a reference—direct or indirect—to such sense-perception is necessary to constitute reality as something other than mere objectivity. A further investigation into the import of isolated ideas or names leads the author to the conclusion that (p. 13) "a name is a sign which rouses the mind to a set of activities having an identical element"; and (p. 38) that "a mere idea is the content of a reflective problematic judgment, and is referred to reality as true under unknown conditions or among unknown alternatives". Thus the name or idea only has value as an element in a proposition or *judgment*, and the proposition or judgment only has value in reference to *reality*. Naming is the outward embodiment of the act of reference or objectification of the idea, as Lotze had urged. Such objectification implies essentially *positive* content, not mere *difference* from other contents. But this *positive* content becomes *determinate* content only by distinction. Distinction, on the other hand, is meaningless without positive content which is identical in the things distinguished. Hence "distinction and identification are two sides of the same process".

A long discussion of the use of the terms Intension and Extension forms the second part of the Introduction. This contains much interesting and suggestive matter. But, after the most careful reading, I fail to understand what exact meaning the author gives to the word Intension. He writes (p. 46): "Intension is the meaning proper, the fixed content" of the [name or] idea. Again (p. 46): "Extension is the whole range of individual objects or instances to which the name applies". And this is explained by the statement (p. 47), that "in every idea the distinction between universal meaning and particular embodiment can be traced". The relation between the two terms is helped out by the unambiguous elucidation (p. 54): "In every concept the intension dictates the extension". So far the matter seems clear. But in the discussion of "mere denominations of number"—a discussion which has many points of interest—the author finds (p. 58) that "they are in a large measure antagonistic to intensional meaning". I do not follow this. In the example given—"The men in Hyde Park last Sunday were (in number) 10,000"—the content of the idea 10,000 is applied to the particular case of the collection of men in Hyde Park. In other instances the same content or intension

might be applied to such collections as books in a library, soldiers in an army, &c., &c. Here the instances of application appear as easily distinguishable from the idea applied as in the case of any other kind of idea. But the case of Proper Names presents an acknowledged difficulty which the author meets by the following solution (p. 53): "In the use of a proper name signification is a means to identification; in the use of a singular or general name signification is predicated for its own sake". This does not appear to reach the difficulty. I understand from it that the intension of a proper name is the set of attributes by which we identify the individual bearing the name. If so, the intension of any other name ought to have the same meaning. But we find, in the discussion of the concurrent variations of intension and extension (pp. 61, 62), that the intension of "falling bodies" includes—for us who know the law of gravitation—"the inverse-quadratic ratio of attraction". This, however, is not involved in our means of *identifying* falling bodies. If we include in intension all that we *know* of the attributes of a set of cases, I do not see what becomes of the statement that "in all cases intension dictates extension"; nor do I see what meaning attaches to the discussion and conclusion on Proper Names.

The real subject-matter of the treatise begins with Book i., which treats of the Judgment and of Judgment-Forms. In the general account of the Judgment Mr. Bosanquet adopts very much the language of Mr. Bradley, though (as he says) the main position is the same as that for which Mill "incisively contended". The ultimate reference in all judgment is to the real world as a whole: this, then, is always the ultimate subject. But (p. 83), "in every judgment the ultimate subject Reality is represented by a selective perception or idea, which designates a something accepted as real". In the proposition, subject, predicate and copula appear as isolated parts, and these have been falsely identified with isolated ideal contents. But the copula is in reality the mere sign of affirmation; and the reason why the finite verb is appropriated to the act of predication is that it is a miniature sentence; *i.e.*, a content referred to a real individual subject. In criticism of the view that the judgment represents a transition in time from a subject fully given but waiting for a predicate which arrives subsequently, the author shows in a lucid discussion of the question that the true transition is through judgments which may be symbolised as $s-p$, $\Sigma-\pi$, controlled all along by a continued identity $S-P$, which includes within it these differences. As long as we can recognise *continuity* in such transitions, which of course does not exclude differences, we have what should be called a Single Judgment. This has an important bearing on the author's view of the nature of Inference.

After this exposition of the general nature of judgment, an explanation follows of the scheme of judgment-forms adopted. The affiliation of forms cannot be represented in a linear series;

for each form has points of attachment with several others. The system of arrangement resembles a plant or tree, with branches starting out from different points in different directions. This "tree of knowledge" differs, however, from trees of nature in one respect, which may perhaps have some speculative interest. Its peculiarity is that it has *convergent* as well as divergent branches. I do not know that this *contrast* might not be as suggestive as Mr. Bosanquet says, in the preface, has been to him the *similarity* of forms of plants to forms of judgment.

A short abstract of the scheme may be given. The simplest form of judgment is the Judgment of Quality, which affirms an analysed ideal content of what in sense-perception arrests attention. This leads to the Demonstrative Judgment, where the subject is explicitly *here* or *now* or *this*. Such demonstratives stand for ideas, but the judgments are perfectly categorical, for the 'this' cannot be denied, and must therefore be considered as either affirmed or presupposed. The *here* and *now*, involving as they do a *there* and *then*, next give scope for the Judgment of Comparison—*e.g.*, 'This is redder now than it was then'. Here the predication implies an identity of quality, red, including within itself differences, red and redder. But (p. 118) "a quality that changes and yet remains the same quality has passed into quantity". Such comparison is, therefore, always Quantitative Comparison. In one divergent direction we thus have the development of time and space, which (p. 122) "in the germ are mere qualities whose continuity is displayed in the judgment of comparison like other qualities". Quantitative Comparison thus leads up to Measurement. Direct measurement, or the establishment of a mere ratio, leads at once to Proportion, or the maintenance of an equality of ratios under all changing circumstances. This characteristic ratio either refers to external standards, and so is eked out by equations *ad infinitum* which exhibit an indefinite relativity, or it attaches to the structural elements within a concrete whole, and so presents (p. 135) "the simplest expression of individuality". Measurement and Enumeration being akin to one another, we are led on to the Enumerative Judgment. This is represented by (*a*) the Plural Judgment, which concerns an aggregate and implies something irrelevant, and so leads up to (*b*) the Collective Judgment, where (p. 165) the content "possesses the character of a finite whole of enumeration," and which again has its ideal in the spirit of (*c*) the Exhaustive Judgment, where a universal connexion of attributes is predicated. A side-development of enumeration is towards mediate counting and abstract counting, leading to the infinites Number, Space, Time. Going back along the main line of evolution to the point where individuality emerged out of proportion, we pass to the Singular Judgment, which includes the two species—the Individual Judgment, whose subject is a Proper Name, and the Corporate Judgment, whose subject is

a comprehensive totality. These are categorical, being false if their subject does not exist at the time (if any) to which the predication applies. In the Quasi-Collective Judgment we find the attempt to predicate attributes of an unlimited aggregate; but this when regarded as a numerical problem of enumeration is a contradiction, and thus "such judgments must be approached from the side of the common or continuous nature, which binds the individual units into a whole" (p. 226). These are reached by means of the Analogical Judgment, "which expresses a presumption that the content enunciated in the judgment is bound up with the characteristic individuality which forms the immediate subject" (p. 228). This is an aspect of the ordinary Generic Judgment. The reality here involved in the concrete universal is brought into clear prominence in the Individual Generic Judgment. This is fully categorical (p. 242), "containing a concrete universal which has power, in the context of the real world to which we refer it, to dictate the epoch, place and quantity of its individual embodiment". But (p. 248) "the universal judgment, when pushed to the extreme point of abstraction, becomes the Hypothetical Judgment". This involves ideally isolated attributes as opposed to self-dependent individuals. It contains a ground and consequent. A very elaborate examination of the idea of ground and its connexion with cause is given. With this we reach the termination of one direction of evolution, and we have to retrace our steps and take up the Negative Judgment.

The judgment of mere *difference* of quality is meaningless and motiveless if it has no basis of positive content. The *positive* significance of a negative judgment is found on the one hand in the *interest* of the suggestion denied, and on the other hand in the *consequence* or the *ground* of the denial. This consequence or ground can be affirmative only if a limited system of mutually exclusive contraries is recognised — contrariety only arising (p. 307) "when positive differents claim the same relation to the same system". Thus (p. 308) "perfect disjunction is the ideal inevitably involved in the nature of negation". Now we also find that the ultimate idea of *ground*—needed to support the Hypothetical Judgment—is that of "an actual system, interpreted in its bearing on its parts" (p. 264). Thus from all sides we finally reach the Disjunctive Judgment, in which are combined the characteristics of the Generic Judgment—self-subsistency, concreteness, actuality—with those of the Hypothetical Judgment—relativity, abstractness, necessity. (See also final paragraph, ii. 204.)

The second volume carries out a plan of the types of Inference similar to that of the types of Judgment. Inference is defined to be a species of Judgment which has for *differentia* the "*mediate* reference of an ideal content to reality". The theory that a *transition* from premisses to conclusion is essential, is discarded: in fact, just as the formation of a judgment is a process such that

a section taken across the interval of intellectual activity will always exhibit the judgment in one of its phases of development, so it is with an inference. Some functions of inference are fulfilled by mere psychological reproduction, and in any conscious judgment a *general* sense of necessity—not referred to any other specific judgment—is always present, but in the higher phases the sense of necessity is more explicitly referred to some ideal content within the judgment, and it thus partakes of the nature of inference. The earliest phase of explicit inference is (p. 46) that of "incomplete enumerative induction, which is an obvious result of recurrent individual judgments". This may be represented by a sort of syllogism in the third figure: *e.g.*, A, B, C, D are great lawyers; A, B, C, D had a classical education: therefore, a classical education may have [has it?] something to do with making good lawyers. This mere Enumeration passes into Analogy when we take note of the character and value of the instances in place of their mere extent. The middle term thus becomes predicate instead of subject, and we have a sort of syllogism in the second figure: *e.g.*, Great lawyers require knowledge of humanity in its various historical phases; a classical education is calculated to produce such knowledge; therefore, great lawyers are likely to have had a classical education. There is no doubt that it is right to represent Enumeration by the third and Analogy by the second figure, and not to follow Lotze in his odd attempt to invert the correspondence. But the logician, who has been trained to formalism, will be liable to feel a difficulty. Seeing that the formal fallacy involved in attempting to draw universal conclusions from such premisses will be remedied by *conversion* of one or other of them so as to yield a syllogism in Barbara, he will consider that the essential problem for Induction is simply to make the converted premiss universal, and the conclusion will then take care of itself. Now the view of the author seems to be that you must not in this way cut away the premisses from the conclusion, and so separate the inductive from the deductive part of the problem. The two premisses must be taken together as throwing light on the character of the limitation with which the universals are to be expressed. The value of the analogical argument depends on the importance of the predicate as a *generical* attribute. This, again, depends on a presumption drawn either from morphology (*de facto* teleology) or from true conscious teleology. In the attempt to make inference scientific, we must employ a method of *perceptive analysis*. The correlation of these methods is very carefully explained and illustrated by the investigation of the adaptation of the bee ophrys for self-fertilisation. The judicious combination of theory and detail with which this illustration is worked out renders it one of the most instructive examples of scientific method that I have met. The highest phase of Induction is Inferential Explanation. The author gives a very excellent

discussion of this subject. We reach at last Concrete Systematic Inference. Here we have a combination of the two diverging characteristics of intellectual development—the abstract or hypothetical and the concrete or categorical. This combination is exhibited in the structure of the first figure. The middle term being *predicate* of the minor premiss is exhibited as determined by *ideal content;* but being *subject* of the major premiss, it is exhibited as a definitely organised *reality*. This combination of divergent characteristics is only in the fullest sense possible in real teleology, where the synthesis of parts into a system is dominated and limited by a conscious purpose. Such a system is indicated (as we saw in vol. i.) by the form of the Disjunctive Judgment, the members of which mutually determine one another within the unity of the system.

The idea—which has its origin in Kant—that the forms of knowledge culminate in Disjunction, is the characteristic feature of the treatise. But surely this is an illusion. The recognition of system requires the *conjunctive* element just as much as the disjunctive. For, in order that "the import of a disjunction may be developed in a series of hypotheticals" having positive content, each member of the disjunction must itself be a Conjunction. Thus the goal of knowledge is a system which is *abc* or *def* or . . ., and which yields the reciprocal hypotheticals—If *a*, then *b*, &c. This goal may be compared with the starting-point of Formal Logic, *viz.*, a system which is *abc* or *ab not-c* or . . ., and which is without *material* value until for mere negative contradictories we substitute positive contraries.

In this brief review of the main outlines of Mr. Bosanquet's treatise I have said little on his treatment of the divergent mathematical developments. I think every reader must feel that this is the least satisfactory portion of the work. It was perhaps unavoidable that arithmetical, algebraical and geometrical principles should take the position assigned to them. But it is certainly inconvenient to find these matters interpolated between the Individual and the Universal Judgment, and, again, between Enumerative and Analogical Induction. The correlation of these mathematical inquiries seems forced and artificial. But, beyond this, the particular treatment of the questions raised does not show (I think) an adequate grasp of mathematical principles, and appears to advance the subject but little. The fundamental principle of probability, which is treated in connexion with the disjunctive judgment, seems to me, however, to be expounded in a sound form; though the author's criticisms of Dr. Venn hardly show an adequate comprehension of that writer's meaning. The two volumes conclude each with a chapter which really collects in a new form the principles underlying the whole. That on "Modality" concludes the treatment of Judgment; and that on "The Postulates of Knowledge" concludes the treatment of Inference. Taking the treatise as a whole, it will be found to

present a remarkable unity. Each discussion tends to develop in a new phase the underlying principles of the work. Though at present I should wish to suspend judgment as to the correctness of many of the details, yet the whole mode of treatment is profoundly interesting and suggestive. Mr. Bosanquet acknowledges with equal candour his indebtedness to Mill as to Lotze, to Jevons as to Sigwart. The most gratifying feeling with which we peruse the work is the conviction that it points to a convergence of view between thinkers trained in the most opposed schools. The philosophical descendants of Hume and of Kant here really 'meet and join hands': not in virtue of relegating their differences to a more appropriate field of combat than Logic (as Mill vainly endeavoured), but by boldly following out their tenets to a plain issue.

W. E. Johnson.

ΠΛΑΤΩΝΟΣ ΤΙΜΑΙΟΣ: *The Timæus of Plato.* Edited, with Introduction and Notes, by R. D. Archer-Hind, M.A., Fellow of Trinity College, Cambridge. London: Macmillan & Co., 1888. Pp. vii., 358.

At last English students of Plato have an adequate edition of the *Timæus*, of all his dialogues the most difficult, and in some respects the most interesting. No one can read Mr. Archer-Hind's book without feeling that it has been a labour of love, but those who can appreciate how great the labour must have been will be none the less grateful to him. The edition consists of the Greek text with an English translation on the opposite page, an introduction and a commentary. The chief object of the translation, we are told, was to relieve the notes from the mass of "linguistic exegesis" which they must otherwise have contained, and thus to leave room in them for a full treatment of philosophical difficulties. No two lovers of Plato will probably ever agree as to how he ought to be translated, but Mr. Archer-Hind has certainly succeeded in his primary object, for he never leaves us in doubt as to how he understands the text; and though, as must be the case with a translation which partly serves the purpose of an exegetical commentary, his English is sometimes as difficult as the original, it has sufficient characteristic flavour to be good reading even to those who know no Greek. As to the commentary, while it is impossible that it should satisfy all the wants and expectations with which different readers come to a work so many-sided as the *Timæus*, it may certainly be said that it seldom misses or shirks a real difficulty, that it never errs in superfluity, and that it works out clearly and consistently the editor's view of the import of the dialogue. Personally I confess that I would gladly exchange the numerous citations and criticisms of Aristotle for some more of Mr. Archer-Hind's mind about Plato. If we were tracing the history of Greek physical

speculation, we could not have too much of such parallel passages; but in studying a book so full of great thoughts which need and repay explanation and development, I grudge every note which takes the mind away from these instead of concentrating it upon them. Nothing has so much interfered with the understanding of Plato as the habit of reading him through the eyes of Aristotle. We may agree or disagree with Aristotle's criticisms, but one thing is certain, that the Plato to whom they relate is only a fragment of the real Plato, and a fragment which cannot compare in interest and importance with that remainder of which Aristotle gives no hint. On the other hand, some readers will probably be disappointed that Mr. Archer-Hind has made comparatively so little use in his commentary of other dialogues of Plato. He would doubtless reply that in the introduction he has sufficiently pointed out what he conceives to be the place of the *Timæus* in the Platonic system. Still it is probably true that the best commentator on Plato is Plato himself, and he might have given greater variety and also greater cumulative effect to his interpretation of the *Timæus*, which he regards as "the focus to which the rays of Plato's thought converge," if he had enabled his readers to see more of what the rays look like before their convergence.

Leaving, however, these points of secondary importance, let us turn to what has evidently most interested the editor himself and is most likely to interest readers of MIND, "the philosophical significance of the dialogue and its bearing on the Platonic system," which, as he tells us, it is the chief object of his edition to examine. Every philosopher offers special difficulties to his interpreters, arising from the idiosyncrasies of his mind and method. The interpreter of Plato, when he has satisfied himself as to what dialogues he shall consider genuine, is at once met by the question in what relation those dialogues stand to one another; and, however various the investigations may be to which this question gives rise, it will always ultimately emerge in the form, How far, and in what sense, do the dialogues form a coherent system of thought? Consistency in philosophy is at least as debatable a matter as it is in politics; the most uniform phraseology and the most orderly treatment do not necessarily imply it, nor does the greatest apparent absence of uniformity or order necessarily exclude it. The interpreter of a great philosopher comes to his work with certain presuppositions; he thinks in more or less fixed grooves, determined by the culture of his age. Much of this culture is perhaps derived from the writer whom he is expounding, and in the process of derivation it has both lost and gained. Thus he is constantly embarrassed by the consciousness of being partly in front of his author, partly behind him; at one moment he will fear that he is finding too much in him, at another that he is cutting him down to the measure of his own conventionality. This is peculiarly likely to be the case

in dealing with a work like the *Timœus*, which lends itself at every point to the most profound and to the most trivial interpretation. Mr. Archer-Hind tells us that in arriving at his conclusions he has "made but two postulates—that Plato does not talk at random, and that he does not contradict himself". This may seem a modest demand, but it is by no means a superfluous one. There have been enthusiastic admirers of Plato who have emphasised and almost extolled his inconsistency; and, though we can hardly suppose that they take inconsistency very seriously when they assume it to be compatible with the highest speculative genius, it is well to be occasionally reminded that if a writer is a philosopher he must be treated as such.

But, if it be admitted that Plato was a philosopher before he was anything else, it must also be admitted that he philosophised in a way of his own; and the real difficulty begins when we have to determine what is "self-contradiction" in a writer who runs through the whole diapason of style, and often combines quite different tones in the same work. We may believe, with Mr. Archer-Hind, that "he has his imagination, even at its wildest flight, perfectly under control," and that "the dithyrambs of the *Timœus* are as severely logical as the plain prose of the *Parmenides*"; but the fact remains that the logic of imagination is other than the logic of science and that, if people quarrel over the principles of the latter, they will quarrel much more over those of the former. It is therefore of great importance that an interpreter of Plato should be clear in his mind as to the relation between (to use the current antithesis) the matter and the form of his author. Mr. Archer-Hind shows himself to be fully alive to this fact, and yet he seems hardly to have availed himself sufficiently of the opportunity of grappling with the problem, a problem which confronts all students of Plato and which the *Timœus* presents in a peculiarly crucial instance. He points out indeed repeatedly and emphatically what Plato, as he believes, did *not* mean; that "the process represented in the *Timœus* is not to be conceived as occupying time or as having anything whatsoever to do with time"; that "the whole story is but a symbolisation of the eternal process of thought, which is and does not become," and that to suppose anything else is to make Plato stultify himself. But what exactly does he understand by "symbolisation"? On p. 32 he represents the whole world of objects in space and time as, in Plato's sense, "symbolic"; "what is true in them is not the representation in space and time, but the reality of existence which they symbolise"; each one of them "is the εἰκών or image of which the unity of being is the παράδειγμα or original". But on p. 116 he speaks of the description of the soul as "returning into itself" (αὐτὴ ἀνακυκλουμένη πρὸς αὑτήν) as being "merely Plato's metaphor describing the activity of thought"; and on p. 114 we read, "Plato does not of course mean that the immaterial and indivisible essence of soul

is composed of circles and distributed in mathematical proportions. The circle is with him a common symbol of the activity of thought: and by assigning the harmonic numbers to soul he declares that whatever relations or harmonies, mathematical or otherwise, are found in the world of space and time, these are the natural expression in material terms of some eternal law of soul." But is the last part of this passage consistent with the first and with the former passage? The last part seems to mean (what is surely the truth) that Plato regarded the movements of the stars as actual modes of psychical activity; the first part seems to suggest that he employed circular movement as an *illustration* (not an *expression*) of such activity. In this connexion Plato's own utterances on the subject of symbolism deserve, I think, a fuller treatment than they have received. The passage 28*a*-29*c* implies an inseparable connexion in his mind between "what has come to be" (γεγονός) and "image" (εἰκών); he passes almost as a matter of course from the conception of a thing as brought into being by a cause other than itself to the conception of it as produced on a certain pattern, the connexion apparently being that in both points of view the thing suggests or relates to something beyond itself, in which it finds its full meaning and explanation. (Accordingly, in Mr. Archer-Hind's analysis of the passage on p. 84, "All that comes to be comes from some cause; so therefore does the universe. Also it must be a likeness of something," I would substitute 'therefore' for 'also'.) The next point to be noticed is the statement, obviously intended to be a corollary from the previous sentences, that in treating of that which has come to be and is of the nature of an image we must employ language which is also of the nature of an image (εἰκότες λόγοι). In his analysis Mr. Archer-Hind happily expresses the connexion between εἰκών and εἰκώς ("with those words which treat of the likeness we must be content if they are likely"), but he does not follow up his own suggestion. Plato seems to mean that, so long as truth is apprehended through an image, *i.e.*, through the medium of something else, it is only 'probable' or hypothetical, and the words which express it must be correspondingly indirect and suggestive merely. In perfect knowledge there would be no image, and in language which expressed perfect knowledge the word would be the thing. This illustrates and is illustrated by the use of εἰκασία and cognate terms in the *Republic*, and should also, I think, be taken in connexion with the difficult passage in the *Timæus*, 52*c*, concerning spatiality. In this passage 'that which really is' is again contrasted with that which is an 'image,' the ultimate ground of contrast being that, while the former is simply itself, the latter is 'the moving appearance of something else, and cannot help therefore being in something else'. Being in space or being 'in another' is thus treated as convertible with being an image, and this again with being itself and not itself at the same

time. If I understand Mr. Archer-Hind rightly, he takes τὸ μέν and τὸ δέ in this passage to refer to 'type' and 'image' respectively; "since," he says in the note, "the image is not identical with the type, it must be manifested in some mode external to the type, that it may be numerically different," and he supposes Plato to be denying a previous doctrine that the idea is "inherent in the particulars". But I do not see how the image can be said to be "numerically" different from the type, for the type is not numerable any more than it is spatial. What Plato seems to mean is that the real individuality of a thing (its being what it is and not something else) is not, as we are apt to imagine, spatial distinctness; that on the contrary spatial distinctness is just what prevents a thing from being truly its individual self, implying as it does continual reference to something else. And unless "inherence" is taken to mean spatial inclusion, he seems not to deny but implicitly to assert the inherence of the 'type' in its 'images'; for an image is *ex hypothesi* an image *of* something, and the type is that which is imaged *in* it. Thus his point in representing the world as an 'image' throughout the dialogue is that all truth short of absolute truth is symbolic, a something 'of' or 'in' a something else, and therefore hypothetical.

It is impossible to pursue this subject further here, and too little space is already left for doing anything like justice to what may be fairly called the main thesis of Mr. Archer-Hind's book, that "the *Timæus*, and the *Timæus* alone, enables us to recognise Platonism as a complete and coherent scheme of monistic idealism". What he understands by this is summed up (p. 33) as follows:—"The one universal thought evolves itself into a multitude of finite intelligences, which are so constituted as to apprehend not only by pure reason, but also by what we call the senses, with all their attendant subjective phenomena of time and space. These sensible phenomena group themselves into a multitude of kinds, each kind representing or symbolising the universal thought in some determinate aspect. It is the universal itself which in each of these aspects constitutes an idea or type, immaterial or eternal, whereof phenomena are the material and temporal representations; the phenomena do in fact more or less faithfully express the timeless and spaceless in terms of space and time. Thus the αὐτὸ ἀγαθόν is the ideas, and the ideas are the phenomena, which are merely a mode of their manifestation to finite intelligence." The introduction is designed to show how such a conception unites and fulfils the various divergent impulses of pre-Platonic speculation. Traversing so great a range of subjects, it is necessarily very condensed, and could not be understood without a good deal of previous knowledge. The account of Socrates, and of Plato's metaphysical debt to him, seems to me the only unsatisfactory part of it. The statement (p. 14), that Socrates "substituted concepts for things as the object of cognition," is, of course, true, if it merely means that he investi-

gated moral instead of physical objects; but if (as would appear to be the case) it is meant to characterise a certain logical theory or attitude of mind on the part of Socrates, to imply, *e.g.*, that he was a 'conceptualist,' it is surely misleading. But apart from this, I cannot think that Mr. Archer-Hind is right in ignoring the effect of the dialectic of Socrates on his disciple. Plato's treatment of the problem of One and Many is quite inseparable from his conception of dialectic; it is in the 'word,' uttered or thought, that the interaction of unity and multiplicity takes place to which Mr. Archer-Hind justly gives so much prominence in his system; and if, without detracting from his originality, we are to talk of his debt to his predecessors, he can hardly have owed more to anyone than to the man who exhibited with apparently unique power, not in theory but in living contact with the mind of his age, the principle that truth is always an identity of differences. What else, indeed, is the conception of the life of the world in the *Timæus*, but that it is the 'converse' of an eternal mind, the dialectical spirit for ever questioning and for ever answering itself? Mr. Archer-Hind himself refers in his notes on the passage about the soul (p. 117) to some of the classical passages about dialectic, but he does not bring out the full significance of the parallel.

I cannot help thinking that this neglect of Plato's conception of the dialectical movement of thought shows itself in his interpretation of the account of the soul. There is probably no method of dealing with this difficult passage (35*a*) to which many objections cannot be raised. I will only observe that Mr. Archer-Hind seems to me to do violence to the Greek in taking ἐν μέσῳ with τῆς τε ταὐτοῦ φύσεως καὶ τῆς θατέρου instead of with τῆς ἀμερίστου κ.τ.λ., and that in the clause καὶ κατὰ ταῦτα ξυνέστησεν ἐν μέσῳ τοῦ τε ἀμεροῦς αὐτῶν καὶ τοῦ κατὰ τὰ σώματα μεριστοῦ he does not translate αὐτῶν, which I suppose refers to τἀυτό and θάτερον, and implies that both "indivisible and divisible substance" come under the categories of identity and difference. The important point is the relation of the indivisible and divisible substance to the same and the different. Mr. Archer-Hind considers the former to be "special applications" of the latter, "identical though not coextensive" with them. But if one is subordinate to the other, why did Plato represent them all as *co-ordinate* constituents of soul? and if they are identical, why have they to be "compounded" to make soul? Mr. Archer-Hind makes soul as substance "arise from the union" of sameness and difference, but Plato makes soul arise from the union of indivisible and divisible substance + sameness and difference. We seem to have a clue to his meaning when he comes to describe the activity or "movement" of soul. He describes the movement as circular, returning into itself, and this circular movement he represents as having two forms, that of sameness and that of difference. In other words, sameness and difference are the elementary forms of

discursive thought (cp. 40*a* and 44*a*), to which all judgments are ultimately reducible, and in the consciousness of which the substance of soul moves eternally out of and into itself. Mr. Archer-Hind, it is to be observed, is himself at pains to distinguish two points of view from which soul may be regarded, that of "existence" and that of "activity" (pp. 43, 106, 107), but he does not take what seems to be the natural course of referring οὐσία to the former, ταὐτόν and θάτερον to the latter.

There are many other points into which it would be interesting to follow him if space allowed, especially his treatment of Plato's conceptions of the creative mind, of evil, of necessity, of materiality. In all these I venture to think that he is a little too much dominated by a single formula, and has not surrendered himself as freely as he might have done to the wealth of suggestive imagery in which Plato has clothed his thoughts. But I must not conclude without repeating that we all owe him a real debt for what he has done, and if I have expressed some differences of opinion, I have done so, to adopt his own quotation, οὐκ ἐχθρὸς ὢν ἀλλὰ φίλος.

R. L. NETTLESHIP.

Das Wesen der Seele und die Natur der geistigen Vorgänge im Lichte der Philosophie seit Kant und ihrer grundlegenden Theorien historisch-kritisch dargestellt. Von Dr. J. H. WITTE, Professor an der Universität in Bonn. Halle-Saale: C. E. M. Pfeffer (R. Stricker), 1888. Pp. xvi., 336.

Prof. Witte's critical history of the post-Kantian theories of the soul was written, he tells us, not least with the aim of combating "the positivist superstition" that there can be a "psychology without the soul," that is, without the assumption of a "soul-substance". In psychology and philosophy equally he finds this assumption to be necessary. Against "English-French Empiricism," in which "the positivistic tendency" has its expression, he champions "the Kantian *a priori*". The doctrine to which his historico-critical study seems to him to lead is that of Kant cleared of all "hypercriticism and scepticism". To this doctrine he gives the name of "Scientific Realism". He finds it already stated, though not with perfect consistency, in the writings of Schleiermacher, Trendelenburg, Lotze and F. Harms. Its fundamental positions are the substantiality at once of the soul and of external things and the existence of *a priori* elements of thought that result from the activity of a "pre-empirical consciousness". Kant freed "the *a priori*" from all temporal reference. Not "the innate," but that which proceeds from the self-activity of consciousness, is what Kant calls *a priori*. This *a priori* presupposes a "matter," which becomes knowledge by means of the forms and activities of the mind. Critical reflection on the self-activity of the spirit reveals to us "with imme-

diate evidence and certitude," "the substantiality of original consciousness," and at the same time, beyond the states of the soul itself, the existence of substantial objects.

The author expounds and criticises the doctrines over which his survey ranges, not in the chronological order, but according to a classification in which Materialism, as the doctrine most remote from that of the substantiality of the soul, is placed first and "Scientific Realism" last, the intermediate terms being "Sceptical Positivism," "Kantianism and Criticism," "Absolute Idealism and Modern Realism" (of the "semi-dogmatic" as distinguished from the "scientific" kind). At the beginning of the section on "Kantianism and Criticism," an account is given of what the author holds to be Kant's own doctrine of "objective Criticism" as distinguished from the "subjective Criticism" into which it has tended to pass in the hands of the Neo-Kantians (pp. 22-43). This doctrine of "objective Criticism," as Prof. Witte conceives it, is almost identical with "Scientific Realism". Kant's speculative theory, he admits, remains to a certain extent "phenomenalistic"; but he was able to escape from phenomenalism altogether by means of the "metaphysical Criticism" of the Practical Reason. Even in theoretical philosophy, however, Kant's position is doubly distinguished from that of "subjective Criticism". "As well by the universal validity of its necessity of knowledge, which refers to something that is grounded not only in the nature of the single subject but in the relation of all subjects to an appearing *object*, as also by the world of things-in-themselves, which stands at the background of all phenomena, the Kantian Criticism leads far beyond a mere Subjectivism and purely relativistic Phenomenalism" (p. 40).

Against Materialism Prof. Witte affirms, as the root-idea of Criticism, that nothing can be thought in an objectively valid manner, without relation to consciousness, nor can consciousness be deduced from an object independent of it (p. 5). "The doubleness of inner and outer experience" is "the starting-point of all human knowledge and science". Materialism rests on experience so far as it rightly concludes from the presence of "external phenomena" to the existence of "corporeal substances"; but that *only* material substances exist is an unjustifiable dogma of materialism, comparable to the idealistic dogma that reduces external phenomena to mere states of the mental substance without which, as it rightly holds, internal phenomena cannot be explained.

The doctrine described by the author (not with any special appropriateness) as "Sceptical Positivism" is that of Prof. Wundt, against whom he contends that the conception of substance is not first formed in the case of material objects and then carried over to mental states, but that the conceptions of the substance of the soul and of material objects are formed independently.

After expounding the Kantian position, Prof. Witte proceeds first, among Kant's successors, to Schopenhauer, by whom "objective Criticism" was most consistently transformed into "subjective Criticism". He then goes on to those Neo-Kantians who, while stating their position in a more moderate form, agree with one another and with Schopenhauer "in the transformation of the Kantian phenomenon into a merely individual-subjective representation, in the reduction of the difference of constant or permanent and of changing phenomena to a merely relative distinction, finally, in getting rid of things-in-themselves". (Schopenhauer, it may be remarked, though he doubtless got rid of what the author means by "things-in-themselves," nevertheless retained the term.) In opposition to "Subjectivism," Prof. Witte lays down a definition of truth as "critically justified harmony of the contents of our thought, grasped with subjective certitude, with a reality which always in part extends beyond the merely subjective activity of thought". The existence of the Ego, again, cannot consist, as has been contended from the point of view of subjective Criticism, in mere "reflective consciousness". Reflective consciousness implies "reflective *being*".

At the end of the section on "Kantianism and Criticism" comes a long sub-section (pp. 88-229) on "Nominalistic Phenomenalism and Empiricism," represented by the physicist E. Mach and by "French-English Positivism," under which head are included, besides Comte, J. S. Mill, Spencer and Ribot, as chiefs of "the extreme foreign directions," Brentano, Giżycki, Stumpf and Lipps, as representatives of Association-psychology in Germany. Prof. Witte here somewhat exaggerates the influence of Comte on English experiential philosophers (see p. 110). On the other hand, he reproaches them with their neglect of German theory of knowledge, which alone can show how and why sensations are "no primary states of consciousness in the sense of ultimate subjective elements, but merely the temporally first phenomena of which we have conscious experience" (p. 134). Like the English Neo-Kantians, he is never tired of reiterating that "there are no sensations as immediately given contents, but only as mentally elaborated impressions of consciousness," that a "fact" is never "something purely empirical," but is always "a product of sense-impression and mental labour, by which the Ego appropriates something" (p. 219). English Association-psychology, he urges, has no adequate account to give of psychical causality. Sensations are for it, if materialism be rejected, "creations out of nothing". "Between the physiological Scylla of a purely materialistic explanation and the dogmatic-metaphysical Charybdis of an entirely idealistic basis, only the Critical thinker can steer." For the Critical point of view, sensations are "not creations out of nothing, but out of the ground of pre-empirical consciousness" (p. 141). They are results of the "self-active reaction of the Ego upon sense-stimuli,—be these external

or be they self-affections of the Ego" (p. 192). If sensation cannot be explained without an "original activity of a pre-empirical consciousness," "a substantial, pre-empirical unity of consciousness, lying at the root of all experiences of the Ego," much less can memory and will. Time and causality, which are assumed without explanation by Association-psychology, can only be explained as products of *a priori* functions, and these imply the substantiality of the soul.[1]

The author next goes on to the "Absolute Idealism" of Fichte, Schelling and Hegel, which makes the "soul-substance" a "relatively constant real unity in the process of becoming," and affirms "psychical causality" as a "metaphysical dogma". The doctrines of Absolute Idealism, though "dogmatic," are not to be called dogmatic precisely in the sense of pre-Kantian Rationalism. They have a common starting-point with Kantian Criticism, *viz.*, "the conviction that all things known by us and knowable for us are dependent on the nature of a consciousness lying before all experience" (p. 231). The difference is that, alike for the "ethical" Idealism of Fichte, the "physical" Idealism of Schelling, and the "logical" Idealism of Hegel, "consciousness embraces all being," while for Criticism there is something outside consciousness. In essence, however, all these forms of Idealism are as uncritical as Materialism; for to make external processes only secondary results of the internal is as uncritical as to make internal experiences only accompanying phenomena of the external (p. 253).

[1] Over thirty pages at the end of this section are devoted to an examination of the doctrine of Prof. Th. Lipps as set forth in his *Grundtatsachen des Seelenlebens*. As that work was reviewed by me in MIND x. 605, and as the author, in MIND xi. 146, protested, among other things, against being classified too exclusively with German psychologists, when he has really been influenced so much by English Associationism, a word may be said here by way of elucidation. Prof. Lipps's psychology seems to be, as a matter of fact, intermediate between Association-psychology and the Faculty-doctrine. His agreement with "French-English Positivism," as regards the empirical origin of ideas of substance, is pointed out by Prof. Witte, who is able, however, to oppose many of his positions to those of other "Positivists". In particular he commends him for retaining the old faculties in his psychology under the name of "powers" and "dispositions,"—a point in which he diverges both from Herbart and from English Associationists; although, as Prof. Witte remarks (p. 201 n.), he follows the order of the Herbartian metaphysics in his *Grundtatsachen*, and although he claims to have worked out "a thorough-going Association-psychology" (MIND xi. 147). His language about "powers" and "dispositions" is not altogether consistent, as Prof. Witte shows (p. 213); but the retention of the Faculty-doctrine separates him formally from the Associationists. This may serve to explain the omission of his reviewer in MIND to notice the relation of his book to English psychology. Naturally an English critic is most struck with what is not English in the book, and a German critic with what is not German. At the same time, I am bound to acknowledge that justice was by no means done to the detail of Prof. Lipps's work.

Uncritical in another way is "the semi-dogmatic Realism of Fries, Herbart and Beneke". The difference between the dogmatism of Herbart and of the Absolute Idealists is that for Herbart the real is "substantial," while for Fichte, Schelling and Hegel it is "causal," that is, belongs to a process. "The complete non-recognition of the pre-empirical consciousness and its *a priori* factors marks the fundamental error and the uncritical moment of Herbart's doctrine, which are the grounds of all other defects, such as the unconditional rejection of the assumption of psychical powers and the purely associative and mechanical conception of psychical connexions and changes in the sense of positivistic empiricism" (p. 256). Herbart and Beneke, however, are in the right as against Kant in contending for the possibility of a scientific theory of "internal experience and perception" (pp. 256, 266). While Herbart is dogmatic and idealistic in his assertion of the existence of the soul as a "substantial thing-in-itself," he is "empiristic, even materialistic," in his explanation of the changes of this substance. With his view that sensations are "original and simple representations" he falls into the error of English Associationism.

The "Scientific Realists," finally, who come nearest to a true theory of the soul, "approach in different manners and degrees the standpoint of unprejudiced and natural consciousness, for which the content of its perceptions as grasped by thought is something real. This standpoint, however, they take up not naïvely, but on the ground of a historico-critical reflection that has made its way through the methodical doubt of a scientific scepticism" (p. 281). The general philosophical bearings of this doctrine we have already seen.

The name "Scientific Realism," though not perhaps quite in the sense intended, is a sufficiently accurate designation of the author's position. His doctrine is, in fact, the realism of objective science and daily life as opposed to philosophical idealism. Still more exactly it may be defined as 'semi-dogmatic dualism'. For, in common with the doctrines called by Prof. Witte "semi-dogmatic," it has a Kantian starting-point, while in essence it is the ordinary dualism that claims to be an immediate datum of "unprejudiced and natural consciousness". The peculiarity of Prof. Witte's position is that, besides making this claim on behalf of his dualism, he also calls it "critical," and even goes so far as to call all other doctrines, in some ill-defined sense, "uncritical". But this is not to appropriate the results of "theory of knowledge". It is practically to ignore them.

In his polemic against Experientialism, though on the whole it cannot be called formidable, Prof. Witte does occasionally make points; but it is not the fault of the English "reaction" (Rückschlag) of which he expresses high approval (Preface, pp. i.-ii.), if these points are not already perfectly familiar to us. The objections to the traditional English philosophy

from the Kantian point of view have not been left altogether unnoticed by experiential thinkers; and the Neo-Kantians themselves are beginning to find out the defects of the positive metaphysical doctrine constructed in England on the lines laid down by Kant's German successors. Prof. Witte's own statement of the *a priori* doctrine, so far as it differs from other recent statements, differs in being less plausible. To talk of "pre-empirical consciousness" seems very like a return to the crudest form of the doctrine of "innate ideas". What is to be said of a "consciousness" existing "before experience"? Is there any difference between such a consciousness and one that is non-existent?

The doctrine of the substantiality of the soul is no doubt separable both from the author's dualism and from his doctrine of a "pre-empirical consciousness". That it is a necessary conception, however, either in psychology or philosophy, his arguments do not prove. He brings no philosophical arguments for it that do not depend on his acceptance of untested "deliverances of consciousness"; and in psychology the effect of the arguments is rather against the necessity of the assumption than in its favour. It is noteworthy, for example, that he finds a certain inconsistency between the distinctively scientific part of the psychology of the Herbartians and their doctrine of the soul. English psychology he expressly opposes on the ground that it assumes no substratum for consciousness except the organism, and that its laws of association are not deduced from the nature of the soul, but are mere empirical laws. French psychology, as represented by M. Ribot, falls under a similar condemnation. According to Prof. Witte's own contentions, therefore, it is not scientific psychology, but the psychology of "powers" and "faculties" that requires the assumption of a "bearer" of consciousness in the sense in which he maintains it. Whatever may remain to be said for the assumption in philosophy, this seems to be conclusive against its scientific value.

THOMAS WHITTAKER.

VII.—NEW BOOKS.

[*These Notes (by various hands) do not exclude Critical Notices later on.*]

Works of THOMAS HILL GREEN, Late Fellow of Balliol College, and Whyte's Professor of Moral Philosophy in the University of Oxford. Edited by R. L. NETTLESHIP, Fellow of Balliol College, Oxford. Vol. iii. "Miscellanies and Memoir." With a Portrait. London: Longmans, Green & Co., 1888. Pp. clxi., 479.

This volume completes the collected edition of Green's works (exclusive of the *Prolegomena to Ethics*) begun in 1885. There were left from the former volumes (see MIND x. 461, xi. 432, xii. 93) to be brought together a number of philosophical papers and reviews, with the special religious addresses and (in extract) New Testament lectures which Green, though a layman, held it part of his tutorial duty to deliver. The volume adds also four historical lectures (from 1867) on the English Commonwealth, one discourse on present-day politics, and three or four lectures on school-reform—a field of action in which he laboured to the last from the time when, in 1865-6, he was employed to report on endowed grammar schools in the midlands. Rather more than half of all that is now printed has before, in one way or another, seen the light. The philosophical student has especially to welcome the reproduction of the two *N. British Review* articles (1866 and 1868), on "The Philosophy of Aristotle" and "Popular Philosophy in its relation to Life," which first announced the rise of a new and independent thinker. On the religious addresses, as on his philosophical work and the aims of his life generally, all needful or even desirable light is thrown in the very remarkable memoir with which, in 150 closely-printed pages at the beginning of the volume, the editor, Mr. R. L. Nettleship, crowns the service rendered to his master's memory. So perfectly satisfactory and suitable a record of a philosopher's life and work, presented shortly after his death as a guide to the understanding of his writings, it would be hard to match in the case of any other. One cannot too much admire either the judicious reduction of the biographical details or the pregnant expression (after Green's own manner) given to the philosophical ideas. The writing of these pages can have been no light work, and, if they are not always easy reading, they are always full of deepest interest and as effective as they could be for the end in view. It is not the least evidence of Green's extraordinary power over other men that he should have drawn forth such a memoir.

Physical Realism: Being an Analytical Philosophy from the Physical Objects of Science to the Physical Data of Sense. By THOMAS CASE, M.A., Fellow and Senior Tutor, Corpus Christi College, &c. London: Longmans, Green & Co., 1888. Pp. 387.

This book is in two parts, the first (cc. i.-iv., pp. 3-97) setting forth the author's doctrine of "Physical Realism," the second (cc. v.-x., pp. 101-382) examining the various doctrines of "Psychological Idealism," from Descartes, through Locke, Berkeley and Hume, to Kant. There is an Appendix (pp. 382-7) giving "Ueberweg's Summary of the *Critique*". The author's aim is to show the inconsistency of "Psychological Idealism," whether "Pure" or "Cosmothetic," with physical science, and to establish a "new Realism" in its place. "The stream of human

discovery," he says (p. 375), "has been like a river, part of which escapes into marshes, while the main channel flows on into the sea; so philosophy, the perennial sources of which are to be found in Greek philosophy and sciences, speculative and practical, has in modern times been partly diverted into the marshes of idealism, while the main stream has expanded into the natural philosophy of Copernicus and Kepler, Bacon and Galileo, Descartes and Newton, and perpetually issues in discoveries and inventions." The "new Realism" "may be expressed in two propositions: there are physical objects of science in the external world; therefore there are, as data to infer them, physical objects of sense in the internal nervous system. It is a *via media* between intuitive realism and the hypothetical realism of the cosmothetic idealist". With the first, it "holds an immediate perception of a physical world," but of an "internal," not an external, physical world. With the second, it holds "the inferential perception of the physical world beyond myself," but from physical, not psychical, data. Its method is to "begin with the more knowable". "Now every mental philosopher is an adult man, and every adult man is more certain what he now knows, than how he originally came to know it, of the discoveries of science than of 'the secret springs and principles by which the human mind is actuated in its operation,' of the known objects than of the sensible data. Accordingly, as in the science of nature we must generally begin with present facts and go backwards to the *causæ essendi*, so in the science of knowledge we must generally begin with the facts of scientific knowledge and go backwards to the *causæ cognoscendi*. Modern philosophers have made the mistake of attempting to repeat the synthesis of knowledge from the original data of the child and the race. But we must rather retrace our steps from the present to the past; instead of trying to follow the synthesis of knowledge from an unknown beginning, we must make an analysis from the present objects of scientific knowledge to the original data of sense. In a word, our method must be an analysis from science to sense." Critical Notice will follow.

Moral Philosophy or Ethics and Natural Law. By Joseph Rickaby, S.J. ("Manuals of Catholic Philosophy.") London: Longmans, Green & Co., 1888. Pp. viii., 376.

This manual, being referred to a series, will apparently be followed by others written like itself, "with studious regard to the mind of the Catholic Church and to the teaching of St. Thomas". It gives the substance of a course delivered for eight successive years to the scholastics of the Society of Jesus at Stonyhurst. Critical Notice of it, by the side of the ethical manual of an American Protestant divine, President E. G. Robinson (see Mind No. 51, p. 450), was intended for this No., but is unavoidably held over till the next.

Nature and Man. Essays Scientific and Philosophical by William B. Carpenter, C.B., M.D., LL.D., F.R.S. With an Introductory Memoir by J. Estlin Carpenter, M.A. London: Kegan Paul, Trench & Co., 1888. Pp. vi., 483.

The memoir by Dr. Carpenter's son with which this volume begins (pp. 1-152) is in its way not less effective than Mr. Nettleship's account of Green noticed above. Carpenter was a very different man, leading a life of rather varied public activity and doing his chief work in the field of natural science. There was, thus, somewhat more to recount in the way of biographic incident, and there was no strain of subtle philosophical thought to be tracked out and brought into view. Still, his

scientific work, pursued with singular ardour from early youth to an advanced age, had for him always a certain philosophical significance; and this his biographer has succeeded in bringing forward with excellent effect, while a graphic picture, not overdone or underdone, is given of a most strenuous life and interesting character. The papers collected under the title *Nature and Man* in the body of the volume—reproduced whole or by extract from serial publications over a period of more than 40 years—show well the kind of philosophic purpose that gave a peculiar elevation to Carpenter's scientific work. He became as anxious to find the secret of man's difference from nature as at starting he had laboured among the foremost to bring man (for purposes of scientific inquiry) into relation with nature. Leaving aside one paper on "The Deep Sea and its Contents," which also is not without relevance to the general stream of argument, the collection falls into four parts. Some papers (1838-57) are first given mainly physiological, but still not without a fore-reaching implication. Next follow three others (1872-76), bringing expressly into view the subjective element in all objective apprehension or inference. Two essays are concerned with so-called "Human Automatism," as this got dogmatic expression in certain quarters towards 1875-6. Finally, in four papers (1880-84) are set forth what the author took to be the theological outcome of the newer scientific inquiry in which he had borne no small part. How—to mention but one point, on which Prof. Estlin Carpenter lays stress in the memorial sketch—it was exactly by his physiological work that Carpenter was led to abandon his early determinism for a doctrine of "self-direction," one has some difficulty in seeing; but the whole series of papers, so judiciously selected and ordered, well deserved republication in the more permanent form, whether as a record of individual achievement or as marking a stage in scientific advance.

On the Senses, Instincts and Intelligence of Animals, with special reference to Insects. By Sir John Lubbock, Bart., M.P., F.R.S., &c. With over one hundred Illustrations. ("International Scientific Series," Vol. lxv.) London: Kegan Paul, Trench & Co., 1889. Pp. xxix., 292.

In the present volume Sir John Lubbock has brought together some of his recent observations on the senses and intelligence of animals; prefixing to the account of his own experiments descriptions of "the mechanism of the senses, and the organs by means of which sensations are transmitted," gathered from numerous memoirs, of which a list is given on pp. xxi.-xxix. The method of exposition of this preliminary matter is to proceed down the scale, beginning from the sense-organs of man. The experiments recorded have been made chiefly on insects. The variety of organs in insects that are apparently organs of sense but to which no function can at present be assigned, suggests to the author the view that among insects might be found senses that man has not or is not known to have (pp. 59, 192). When the senses are supposed to be absolutely disparate, it is of course not easy to bring this suggestion to the test. In cases where there is a possibility of verifying it, the results are sometimes negative and sometimes positive. The author concludes, for example, that "there is no sufficient evidence among insects of anything which can justly be called a 'sense of direction'" (p. 271). On the other hand he believes that his experiments prove conclusively that ants are not only "specially sensitive to the violet rays," but are also "sensitive to the ultra-violet rays, which lie beyond the range of our vision" (pp. 202-3). And "the ants perceive the ultra-violet rays with their eyes, and not, as suggested by Graber, by the

skin generally" (p. 211). Bees also have preferences for special colours; and daphnias "distinguish between rays of different wave-lengths, and prefer those which to our eyes appear green and yellow" (p. 231). The chapters devoted to the sense-endowments of animals are the first ten and the thirteenth ("On the supposed Sense of Direction"). Chapters xi., xii. and xiv. contain many interesting observations on the instincts and intelligence of ants, bees and wasps (including the solitary bees and wasps), and dogs. The experiments with intoxicated ants are now well known. There is an especially interesting passage, at the end of the last chapter, on dogs and "thought-reading".

Psychology. Three Volumes by ANTONIO ROSMINI SERBATI. Vol. iii. London: Kegan Paul, Trench & Co., 1888. Pp. xiv., 464; with Indexes, separately paged 1-123.

Here is completed the translation begun in 1884 (see MIND x. 139, xi. 286). The volume consists of a book on "Laws of Animality" (pp. 1-288); an Appendix, "A Critico-historical Sketch of the Opinions of Philosophers on the Nature of the Human Soul" (pp. 291-464); and two admirably exhaustive Indexes from the hand of Don Severino Frati of Parma. Vol. ii. having dealt with the "Development of the Human Soul," resulting in an exposition of "the laws that guide the rational principle in its action," Rosmini feels bound, before closing, to return to that "animal part" of human nature which had come into view in the discussions on the "Essence of the Soul" filling vol. i.:—the animal part which, he says, "surrounds human intelligence, like a series of bands wrapping it round and confining it everywhere, and making it wonder at itself and ask why, since it is free in its essence (all intellect resides in the infinite), it is so circumscribed and checked in its flight by a material, brute element". In these words the point of view is at once recognisable; but only from the exposition itself can it be judged with what exceeding care Rosmini brought the best physiological and pathological information he could gather in his time to bear upon the problems of Mind in relation to Life generally. The result has now an interest mainly antiquarian, but not therefore of little value; while a good deal more than antiquarian interest still attaches to the appended "Critico-historical Sketch," drawn from the fulness of the philosopher's rare erudition. Now that the translation, planned with such devotion and so worthily executed and presented, is all there, it can hardly be said that more than a remarkable work of reference has been added to the library of the English psychologist. But it is a work of reference which for variety of contents (if not exactly breadth of range) had scarce its equal there before; and for its use the excellent Indexes supply all the help that could be desired.

Handbook of Moral Philosophy. By HENRY CALDERWOOD, LL.D., Professor of Moral Philosophy, University of Edinburgh. Fourteenth Edition, largely re-written. London: Macmillan & Co., 1888. Pp. x., 376.

Prof. Calderwood's *Handbook*, originally published in 1872, has not only been largely re-written for this edition (many improvements having been made in detail), but in bulk nearly 100 pp. have been added. The "exposition and defence of the Intuitional Theory of Morals," which the book at first offered, has been brought up to date by inclusion of the "criticism of Utilitarianism," that accompanied it, in a more general criticism of the Evolution-theory, under the two forms in which it appears in contemporary thought, namely, "biological and psychological" and

"dialectic" evolution. The psychological basis of utilitarian theories is regarded as forming part of the first of these two doctrines of evolution, and biological evolution in its turn as the preparation for psychological evolution. The criticism of Utilitarianism, therefore, is now placed at the end of the first of the two divisions (i. "Biological and Psychological," pp. 95-130; ii. "Dialectic Evolution," pp. 131-158) substituted for the single division entitled "Development Theory" (pp. 98-152) in the first edition. The general distribution of matter remains for the most part unaltered. A marked change, however, is that the "Sketch of the History of Philosophic Thought as to the Source of our Knowledge of Moral Distinctions," formerly appended to "Psychology of Ethics" early in the book, is now transferred to the end under the title "Sketch of the History of Moral Philosophy". Besides many omissions and alterations in the historical Sketch itself there is to be noted an appended section on "Recent Literature," consisting of expositions of Sidgwick's *Methods of Ethics*, Green's Introductions to Hume, Bradley's *Ethical Studies*, Spencer's *Data of Ethics*, and Cyples's *Process of Human Experience*. The History with its additional section extends over pp. 318-367 of the new edition. The circumstance that Utilitarianism, as the author understands it, is now based not only on psychology and the empirical theory of knowledge in its older form but also on the theory of biological and psychological evolution, is perhaps one reason why he gives some pages to physiology, with "illustrations of the structure of nerve and brain," in the enlarged Introduction. The reason assigned for including physiological matter in a treatise on "Moral Philosophy" at all, is that "Physiology and Psychology are so related, that neither science can adequately interpret its facts without reference to the other" (p. 15); the greater part of the book being in fact occupied with "Psychology of Ethics," and only much shorter divisions being allotted to "Metaphysic of Ethics" and "Applied Ethics". Attention may be drawn to the criticism of Neo-Kantianism under the head of "Dialectic Evolution". The enlarged and improved bibliography of the new edition is finally to be noted.

A Treatise of Human Nature by David Hume. Reprinted from the Original Edition in three volumes, and edited, with an Analytical Index, by L. A. Selby-Bigge, M.A., Fellow and Lecturer of University College. Oxford: Clarendon Press, 1888. Pp. xxiii., 709.

A handy edition of the *Human Nature* has been much wanted ever since Green brought it so impressively to the notice of students that it could nevermore be left aside for the much less important and deep-going *Inquiry*. The present reprint is in form and fidelity everything that could be desired, but it also has a quite peculiar value in being supplemented with an exemplary Index—running to almost 70 pp.—from the editor's hand. The execution of this guide to the thorough study of Hume's work is so good that it is but doing justice to the editor to show, in words of his own, what his conception of the task was:—"An index . . . enables a reader or student to find some definite passage, or to see whether a certain point is discussed or not in the work. For this purpose a long is evidently better than a short index, an index which quotes than one which consists of the compiler's abbreviations, and its alphabetical arrangement gives it an advantage over a table of contents. . . . But besides this, in the case of a well-known and much-criticised author, an index may very well serve the purpose of a critical introduction. If well devised it should point, not loudly but unmistakably, to any contradictions or inconsequences, and, if the

work be systematic, to any omissions which are of importance." How well this superior conception is carried out appears at once on turning to such capital topics as 'Belief,' 'Body,' 'Cause,' and the like, where, by a most carefully devised system of sections and sub-sections, all the points of Hume's doctrine (with the appropriate references) are brought out, as far as possible, continuously in his own words,—to the satisfaction alike of the beginner who wants a clue to what he may find in the book and of the expert who desires to recollect. Under one head or another nothing important seems to have been overlooked. For instance, if under neither 'Abstract' nor 'General' there is more than general reference given about Hume's doctrine of "abstract or general ideas," the detail is well supplied in a special section under 'Ideas'.

Two Essays by Arthur Schopenhauer. i. *On the Fourfold Root of the Principle of the Sufficient Reason.* ii. *On the Will in Nature.* A literal Translation. ("Bohn's Philosophical Library.") London: G. Bell & Sons, 1889. Pp. xxix., 380.

Schopenhauer's earliest and strictly fundamental work had not before been put into English, though a short abstract of it was given as an appendix to Haldane and Kemp's translation of *Die Welt als Wille, &c.* It was a happy thought of the present anonymous translator to couple with the *Vierfache Wurzel* of 1813, which preceded Schopenhauer's chief work by six years, the supplementary essay of 1836, *Ueber den Willen in der Natur;* the two being in a manner complementary and covering in their fashion the whole ground of the systematic treatise of 1819. Everything of Schopenhauer's that specially called for translation is thus at last within the reach of the English reader. Of the translator's work (so far as we have tested it) it is possible to speak with almost unalloyed praise—which does not often happen with translations. He writes as good English as Schopenhauer, who for a German was a very good writer, might have done if he had been English and had those things to convey. That is to say, he takes great pains, while still aiming at "literal translation," to turn German periods into English sentences; and as to the terms of art involved he has an adequate sense of the difficulty of finding the true English equivalents. The excellence of the result is the less surprising when he states—what again does not often happen with translations—that the work was "originally undertaken in order to acquire a clearer comprehension of the essays rather than with a view to publicity". The translator has, of course, gone upon Frauenstädt's latest editions, incorporating all Schopenhauer's final additions and corrections, so racy and characteristic.

(1) *Scientific Romances.* No. vii. "The Education of the Imagination." No. viii. "Many Dimensions." By C. H. Hinton, B.A. London: Swan Sonnenschein & Co., 1888. Pp. 1-44. (2) *A New Era of Thought.* By Charles Howard Hinton, M.A. Oxon. London: Swan Sonnenschein & Co., 1888. Pp. xvi., 241.

(1) These are the first two numbers of a second series of "Scientific Romances" following upon those already noticed in Mind. No. vii. is not strictly a romance, but an essay written by the author some years ago, and containing "the germs of the work which is more fully illustrated in his more recent writings". The general disquisition of No. viii. is enlivened by a brief "Eastern story" (pp. 28-31), drawing a new moral from the earth-supporting elephant and the tortoise on which it rests.

(2) The "new era of thought" is "the four-dimensional era" which

"Gauss and Lobatchewsky have inaugurated". The author seeks to make the fourth dimension of space conceivable by a series of constructions with small cubes, described in part ii. (pp. 101-217; with Appendices, pp. 219-241). In part i. he explains what is to be gained both intellectually and in the way of ethical and religious insight from the effort to represent "higher space". The principle of his method is that the clear conception which he maintains is possible of the relation of our world of "three-dimensional space" to the fourth dimension, is to be attained by direct geometrical treatment of problems hitherto treated only analytically.

Mind and Matter. A Sermon preached before the British Medical Association, on Tuesday, August 7, 1888. By JOHN CAIRD, D.D., LL.D., Principal of the University of Glasgow. Published by request of the Association. Glasgow: James Maclehose & Sons, 1888. Pp. 27.

An argument against Materialism on the grounds (1) that "the materialist theory of the relation of matter and mind," requiring the transformation of energy into consciousness, "is in irreconcilable opposition to that very law of the conservation of energy on which it professes to rest," (2) that "Matter, out of which by some inconceivable process thought is to be produced, is that of whose very existence thought is the constitutive, creative source".

A New Theory of Necessary Truths. By LEONARD HALL, M.A., late Scholar of St. John's College, Cambridge. London: Williams & Norgate, 1888. Pp. 31.

"In the following pages," the author writes, "I have put forward a theory of necessary truths which, so far as I know, is new. After showing that the propositions of mathematics and logic are regarded by the mind as *necessarily* true because their negations are *contradictory* to one or other of the *axioms* or *definitions*, I come to the question why *axioms* are regarded by the mind as *necessarily* true. My answer to this question constitutes what I have ventured to call a new theory of necessary truths. I attempt to show that the axioms (except the law of the Excluded Middle) are regarded by the mind as necessarily true, because their negations are contradictory to a proposition which is *certainly* true, being vouched for by the *immediate* testimony of consciousness, a proposition whose validity is *independent of experience*, being, indeed, the condition of the *possibility* of experience, *viz.*, the proposition that *the mind has the capacity to be conscious of unlikeness.* Finally, I consider the validity of the law of the Excluded Middle, an axiom which is employed in every step of reasoning." The law of the Excluded Middle itself "is the expression of the *mutual exclusiveness*" of classes of mental states; "it is therefore derived from that capacity of the mind to be conscious of unlikeness, which involves the power of classifying mental states" (p. 31).

The Philosophy of Religion on the Basis of its History. By Dr. OTTO PFLEIDERER, Professor in the University of Berlin. Vol. iv., translated by ALLAN MENZIES, B.D. London: Williams & Norgate, 1888. Pp. xi., 327.

It has but to be added to the note in last No. (p. 611) on vol. iii. that now, with vol. iv., is completed this effective translation of a work of great importance. The German original was reviewed at length in MIND x. 285.

Three Introductory Lectures on the Science of Thought, delivered at the Royal Institution during March, 1887. By F. Max Müller. With an Appendix. Chicago: *The Open Court* Publishing Co., 1888. Pp. vi., 95; App. 1-28.

So much was said in Mind No. 49, pp. 94-105, on Prof. Müller's *Science of Thought* itself that mere mention may suffice of these *Lectures*, delivered at the moment of its appearance, and first completely published in the pages of the enterprising American journal *The Open Court*. They have, in general, exactly the characteristics of the work they were meant to introduce to public notice, but credit should be allowed for the correcter (though brief) information about Berkeley and Hume given at p. 53, as compared with that afforded in *The Science of Thought* (see Mind xiii. 100). The Appendix reproduces a variegated correspondence on "Thought without Words" from *Nature*, called forth by *The Science of Thought*.

Altruism considered economically. By Charles W. Smiley. Salem, Mass., 1888. Pp. 22.

The doctrine enforced in this Address, delivered in August last to the American Association for the Advancement of Science, is that "Self-abnegation is as far from virtue as selfishness. The golden mean lies between where our egoism benefits us but does not sting another, and where our altruism benefits others in its ultimate effects without sapping their or our own welfare." Moral progress is from excessive egoism, through indiscriminate altruism, to justifiable egoism and discriminate altruism. "To Christianity, by far the greatest exponent of indiscriminate altruism, is due the great credit of having taught it and measurably brought the world from selfishness to disinterested benevolence;" but the important thing now is to point out the evil effects of the excesses of modern "benevolence and charity".

Poetry, Comedy and Duty. By C. C. Everett, D.D., Bussey Professor of Theology in Harvard University. Boston and New York: Houghton, Mifflin & Co., 1888. Pp. v., 315.

Of this book, part i. (pp. 1-154) treats of Poetry (under the heads of "The Imagination," "The Philosophy of Poetry," "The Poetic Aspect of Nature" and "The Tragic Forces in Life and Literature"); part ii. (pp. 155-215) of Comedy ("The Philosophy of the Comic"); part iii. (pp. 216-305) of Duty ("The Ultimate Facts of Ethics," "The New Ethics"). The Conclusion (pp. 306-315) indicates the relations of "Poetry, Comedy and Duty" to one another. All three parts have interest and freshness of style. The author's general conclusions are that "in the comic is found a special characteristic of the spirit, and its act of purest or most independent self-assertion," in which it "holds itself wholly apart from and above the object of its contemplation"; that "in the enjoyment of beauty the spirit is no longer in solitude" but in sympathy with the life about it, though its relation to this is still "of the nature of play"; that, finally, "in duty it has found an object worthy of its highest devotion, and has surrendered itself to this, finding in this surrender the full and free realisation of itself".

Psychologie de l'Attention. Par Th. Ribot, Professeur au Collège de France, &c. Paris: F. Alcan, 1889. Pp. 180.

Another (the fourth) of the short psychological monographs which Prof. Ribot has, in recent years, taken to writing. Its three main parts have already appeared in the *Revue philosophique*. Critical Notice will follow.

Le Phénomène. Esquisse de Philosophie générale. Par J.-J. Gourd, Professeur à l'Université de Genève. Paris: F. Alcan, 1888. Pp. 447.

Among the salient characters of his "Sketch of General Philosophy" the author indicates "in the first place fidelity to the strictly phenomenalist point of view". His phenomenalism requires the condemnation of "ultra-phenomenalist substantialism," of pantheism, and of "exclusive materialism and spiritualism". "For pantheism it would be necessary to substitute a frankly pluralist doctrine, in which individualities would preserve, in the bosom of the universal harmony, their distinction and independence." In opposition to materialism and spiritualism he concludes for "a dualism of moments equally necessary" but "unequally interesting," a dualism "de nuance spiritualiste".

La Vie et L'Ame. Par Emile Ferrière. Paris: F. Alcan, 1888. Pp. 580.

A study of "Life" (part i., pp. 23-170), "The Soul" (part ii., pp. 171-469) and "Life and the Soul in their relations with Matter and Energy" (part iii., pp. 471-563), by an author who is already known as a populariser of science. He aims at establishing, even to the satisfaction of "the reader whose hair would stand on end at the mere name of Metaphysics" (p. 8), "an experimental Spinozism," or doctrine of "the unity of substance" and of its double manifestation as "matter-energy". For this doctrine "the soul is a function of the brain". "Matter-energy" has "two general modes of evolution," the "inorganic" and the "organic". "Life is a principle, as to its origin," and therefore implies a First Cause. To determine whether the First Cause is included in the "world," *i.e.*, the sum of the inorganic and organic modes, or is distinct from the world, will be the object of another volume.

L'Histoire de la Philosophie, ce qu'elle a été, ce qu'elle peut être. Par M. F. Picavet, Agrégé de Philosophie. Paris: F. Alcan, 1888. Pp. 48.

A discussion of the relations of history of philosophy to other studies. The preliminary studies in textual criticism, biography, &c., necessary for the full understanding of a philosophical system having been set forth, the mutual bearings of the history of science, art, literature and institutions, and of the history of philosophy in general, are illustrated. The author brings out very forcibly the relation between the history of the special sciences and of philosophy.

Essai sur la Liberté Morale. Par E. Joyau, Chargé de cours à la Faculté des lettres d'Aix, Ancien élève de l'Ecole normale. Paris: F. Alcan, 1888. Pp. x., 246.

The author of an essay on the Creative Imagination, noticed in Mind v. 295, here deals with the question of Free-will. After examining and rejecting "Fatalism," "Determinism" and the "Liberty of Indifference," he sets forth as his positive doctrine that "the essential form of liberty is to will a thing because reason commands it; self-determination by oneself is self-determination in conformity with reason". Free-will as the power of determining oneself conformably to reason does not include the power of acting wrongly, that is, in opposition to reason. "Such is the nature of liberty that it is impossible to make a bad use of it; but it often happens to us not to make use of it at all." "The cause of the good that we do is in us, the cause of evil is outside of us; if we

accomplish it, it is that we are carried away by an external force, we submit to a law that we have not made, we are heteronomous." The power of willing in accordance with reason depends on the power of directing the attention to that which reason affirms. The will is said to be free and the person responsible because attention is in our power. Free-will is an acquirement, rather than something that all men possess merely by the fact of their being men. There are many men who never attain to the exercise of their free-will, but remain always heteronomous. "No one sins willingly." This position the author revives in its unqualified form and defends against the objections of Aristotle and the moderns. For anyone to do evil, his judgment must first be so perverted by passion that he regards it as a good. He is responsible because it was in his power to suspend judgment and to learn what reason commands by directing the attention. "If we know what is good, if we judge that better which is really so, we shall never fail of force to accomplish it."

Prof. Giovanni Cesca. *La Metafisica e la Teorica della Conoscenza del Leibniz.* Padova: Drucker e Senigaglia, 1888. Pp. 44.

An exposition and criticism of Leibniz's Metaphysics (pp. 3-30) and Theory of Knowledge (pp. 31-44). Both are included in the same condemnation as involving recourse to the "miracle" of "pre-established harmony". Leibniz had the merits of opposing the Cartesian doctrine of the passivity of matter and of developing the law of the continuity of all beings; but these merits were neutralised by his "theologico-metempirical tendency," which prevented him from seeing that "all our knowledge is relative to our consciousness and limited to our experience"—a result which could only be attained by Kant, "liberating the Leibnizian doctrine on the origin of cognition from the metaphysical preconceptions to which it was bound".

La Morale e il Diritto. Per Giacinto Fontana. Milano: Fratelli Dumolard, 1888. Pp. 447.

A critico-historical study of the relations of law and morals. Morality and law the author regards as two parts of a general science of Ethics. As such they are to be cultivated in "distinction but not separation". Against modern "positivistic" writers—among whom are included M. Fouillée, as well as the new Italian criminological school—the author contends for free-will as essential to the idea of justice.

Zur Lehre von der Definition. Von Dr. Heinrich Rickert. Freiburg i. B.: J. C. B. Mohr (Paul Siebeck), 1888. Pp. 66.

Before the signification of "a word designating a concept" can be given, a "purely internal thought-process" must have preceded. It is quite arbitrary to call the expression in language alone "definition". "Neither does the word ὁρισμός in Aristotle signify word-explanation, nor is the word 'definition' used in this sense to-day. It is employed rather for that internal thought-process *and* the expression in speech at the same time" (p. 20). The end of definition is so to determine concepts that out of them a complete system of necessary judgments may be formed of which the subjects and predicates are perfectly unambiguous concepts (p. 22).

Einleitung in die Psychologie nach Kritischer Methode. Von Paul Natorp. Freiburg i. B: J. C. B. Mohr (Paul Siebeck), 1888. Pp. 129.

This Introduction to Psychology on Kantian principles is divided into two parts:—i. "The Object of Psychology" (pp. 1-42), ii. "The

Method of Psychology" (pp. 43-129). The object of psychology the author finds to be the combination of "contents" in the actual consciousness, so far as this combination has reference simply to the subject or Ego. According to his view, there are not two "orders" of phenomena, constituting "the object- and subject-worlds," but each phenomenon has an objective and a subjective side or aspect; the difference being that in one case the reference to the unity of the Ego, in the other case the reference to the unity of the object (which is the unity of law), is abstracted from. This "correlativity of consciousness and object" has repeatedly found expression in the history of philosophy, but its negative consequences for the possibility of an independent theory of the phenomena of consciousness have only been decisively proclaimed by Kant (p. 51). Two things appear to the author to result at once from the principle of "correlativity": (1) all truly scientific explanation of psychical phenomena must be from the objective side, that is, it must be physiological; (2) the unity of consciousness itself, since it is a condition precedent to all knowledge, admits of no explanation at all. Nevertheless he contends, against Kant, for the possibility of an independent psychological theory having for its problem to "reconstitute" the psychical phenomenon out of the objects of science and ordinary consciousness, just as science "makes objects out of given phenomena". Psychology, in this sense, is the subjective correlate of Theory of Knowledge—or "Criticism of Knowledge," as he would prefer to say. Criticism of Knowledge is purely "objective" and absolutely independent of psychology. The unity of law that is its presupposition is really a "unity of determination of content," of which "the unity of consciousness" is only the subjective expression. The "fundamental and general part of psychology" corresponding to "pure, objective criticism of knowledge" would be a "pure *a priori*" psychology, and would form part of philosophy. The author proposes a distribution of its subject-matter under the heads of (1) sensation, (2) representation, (3) the concept, (4) the idea of end. He seeks to attach his own views of the nature of knowledge in general and of psychological explanation in particular chiefly to the doctrines of "the great Rationalists"—Plato, Descartes, Leibniz and (of course) Kant. A reference, at p. 92, to English psychologists, by whose views in this instance he seeks to confirm his position, is not historically quite accurate. "For the so-called laws of Association of Ideas," he says, "their founders presupposed physiological causes, and indeed as self-evident, and only in regard to such causes did they venture to designate them laws, but had no intention of introducing a purely psychical causality." This was not the position of Hume at least; but the author would find it anticipated, along with his doctrine of the two "aspects," by Mr. Shadworth Hodgson among living English philosophers.

Untersuchungen zur Philosophie der Griechen. Von Dr. HERMANN SIEBECK, Professor der Philosophie an der Universität Giessen. Zweite, neu bearbeitete und vermehrte Auflage. Freiburg i. B.: J. C. B. Mohr (Paul Siebeck), 1888. Pp. viii., 279.

The first edition of these studies on Greek philosophy appeared in 1873. For this second edition they have been revised in the light of more recent investigations and otherwise modified. To the four studies of the original edition—the subjects of which are (1) The relation between Sócrates and the Sophists, (2) Plato's doctrine of Matter, (3) Chronology of the Platonic dialogues, (4) The transformation of the Peripatetic Nature-philosophy into that of the Stoics,—two others that

have been since published are added, both of which are contributions to Aristotelian criticism ("Zu Aristoteles," pp. 152-162; "Zur Katharsis-frage," pp. 163-180). Altogether new matter is added in two supplements to (3), "On the Platonic question" (pp. 253-274). In the last of these there are some remarks on Dr. E. Pfleiderer's recent work (see MIND xiii. 464). Prof. Siebeck here contends that the philological method, though it does not lead very far, yet, as far as it goes, yields more positive results than Dr. Pfleiderer is willing to admit. With some of Dr. Pfleiderer's positions he himself agrees, but would seek a basis for them in philological rather than in philosophical considerations. His excursion into purely textual criticism, however, is only an indication of the thoroughness of his method of study, and not of any disposition to neglect the philosophical for the philological point of view. The idea by which the book as a whole is dominated is—as might be expected from the Historian of Psychology—that of the continuity of philosophical thought. The aim of the first study, for example, is to show how, notwithstanding the constructive aims of Socrates and the absence of constructive aims among the Sophists, there were in every department of thought and life fundamental agreements between the Socratic and the Sophistic positions, due to the common opposition of the Sophists and Socrates to the early dogmatic philosophies. The two critical papers on Aristotle, again, have for their aim to show the dependence of Aristotle on Plato; and immediately after these comes the long and important investigation of the relation between the Aristotelian and the Stoic philosophies of nature, which, the author maintains, is one of specially close dependence. The problem he here sets himself to solve is that of showing how the theoretical philosophy of the Stoics was a development of Peripateticism in the direction of monism, and yet at the same time a return to Heraclitus. The solution given is led up to by a detailed exhibition of the dualistic elements in Aristotle's theory both of the macrocosm and the microcosm, of the suggestions for getting rid of dualism that were contained in his own works, and of the development of these suggestions by the Peripatetics. This development had only to be carried a little further by the Stoics for a system of complete monism to take the place of the partially dualistic system of Aristotle. Now the monistic doctrine into which Aristotelianism tended to pass bore a strong resemblance to Heracliteanism. It was for this reason that the Stoics attached themselves directly to Heraclitus—by whom, as the author allows, the development of their philosophy of nature into the form it finally assumed was also directly influenced, though its immediate historical antecedent, as it is the object of his investigation to show, was Aristotelianism. In his discussion of Plato's theory of 'matter,' Prof. Siebeck contends that for Plato the opposite of the idea was not a material substance like that of Aristotle and later thinkers, but "the indeterminate substratum of the geometrical," "the abstract form of space". Thus the unreconciled dualism of Plato's philosophy is accompanied by a striving after monism. Though unable to maintain for his ideal world an exclusive reality such as the Eleatics maintained for 'being,' Plato made his concessions to the Ionian physicists as small as possible by reducing to a mere abstract form, an empty capacity of assuming geometrical determination, the reality he was obliged to allow to that which opposed the unity of the idea.

Philosophische Güterlehre. Untersuchungen über die Möglichkeit der Glückseligkeit und die wahre Triebfeder des sittlichen Handelns. Von Dr. A. DÖRING, Gymnasial-direktor a. D. und Docent an der

Berliner Universität. Berlin: R. Gaertner (H. Heyfelder), 1888. Pp. xi., 438.

An attempt at a theory of the good and of happiness as a basis for ethics. According to the author, the theory of goods in general is not only a philosophical problem, but the whole problem of philosophy. The highest good having been determined, an ethics, or theory of the course of life by which this is to be attained, may then be constructed. Later antiquity (the Epicureans and Stoics) had arrived at the true conception of philosophy as theory of goods, and although this has not yet become again the prevailing conception, it is now coming forward in consequence of the rise of pessimism. Philosophy has to take the pessimistic negation as its starting-point and proceed thence to the development of a positive doctrine of happiness. The book falls into two parts—i. "Elementary Doctrine of Goods" (pp. 57-244); ii. "Collective Doctrine of Goods, or Doctrine of Happiness" (pp. 245-419), together with an Introduction (pp. 1-56) and an Appendix (pp. 420-38).

Die technischen Fortschritte nach ihrer ästhetischen und kulturellen Bedeutung. Von Joseph Popper. Leipzig: Carl Reissner, 1888. Pp. 70.

An interesting, if sometimes rather paradoxical, essay on the æsthetic and social effects of the progress of the mechanical arts. The author first points out that there is a real æsthetic pleasure, not only from following the progress of discovery in pure science, but also from contemplating the adaptation of means to ends in new applications of science to industry. This, he goes on to contend, is an "equivalent" for the pleasure in the fine arts that the modern world has perhaps to some extent lost. If the new æsthetic pleasure in pure and applied science is not positively moralising, at any rate it has none of the corrupting influence often exercised by fine art At the same time its influence on civilisation is not entirely advantageous, as the author goes on to admit. Its effect on the present age is that of a "moth-ideal"; and the European nations, regarding themselves as superior to the others simply because they are superior in science and industry, try to push those that do not willingly accept their ideal into the flame—a proceeding for which there is no parallel in natural history, and which cannot be justified, since both individuals and nations know best what is their own greatest æsthetic enjoyment. The Mohammedan, for example, who regards the Arabian Nights as true, or at least possible, perhaps derives more æsthetic pleasure from his imagination than the European does from the greatest wonders of applied science. In the end, however, technical progress will be so used as to result in nothing but good.

Das nachgelassene Werk Immanuel Kant's: *Vom Uebergange von den metaphysischen Anfangsgründen der Naturwissenschaft zur Physik*, mit Belegen populär-wissenschaftlich dargestellt von Albrecht Krause. Frankfurt a. M. und Lahr: Moritz Schauenburg, 1888. Pp. xvii., 213.

The manuscript of Kant's posthumous work projected as the transition from the *Metaphys. Anfangsgründe d. Naturwissenschaft* to physics, which has passed through various hands, and is now in the possession of the present editor, Dr. A. Krause, is not even yet published in full. Very copious extracts, however, are supplied, and the editor gives, with continuous reference to these, a "popular exposition" of the whole work. The pagination is in duplicate—the extracts from Kant's MS. being given on one side, in German type, and the editor's exposition, in

Roman type, on the opposite side. In the margin is an analysis, also printed separately as a table of contents on pp. iii.-xiii. The exposition is a free rendering of Kant's thought; the Kantian positions being applied, for instance, to the interpretation of discoveries in physics made since Kant's day, and to the criticism of the "Nature-Philosophy" of Schelling, Hegel, Oken, &c.

Bibliographie des Modernen Hypnotismus. Von Max Dessoir. Berlin: C. Duncker's Verlag (C. Heymons), 1888. Pp. 94.

This Bibliography of Modern Hypnotism—which should have been noticed earlier—records especially the work done in the most recent period of hypnotic studies, since the time when the subject was brought into full recognition by French investigators. It is very full and careful. Merely popular essays are not mentioned, but articles in scientific journals, even when they have been republished in another form, are cited also according to their original date and mode of publication, so as to give the student the means of tracing accurately the progress of the subject. The list of periodicals referred to extends from p. 13 to p. 20; the bibliography (classified under nine heads) from p. 21 to p. 86. A page of statistics (p. 87) follows, where the number of papers, &c., is given according to (1) subject, (2) language, (3) date of appearance (1880-8). Lastly there is an Index of names (pp. 88-94). In his Preface the author writes of the progress of hypnotic research in a tone of enthusiasm. The bibliography is intended as the preliminary to a "Critical History of Hypnotism" which he has it in view to write.

Kant und Schopenhauer. Zwei Aufsätze von Georg von Gizycki. Leipzig: W. Friedrich, 1888. Pp. 112.

Of these appreciative and interestingly written essays on "Kant's Practical Philosophy" (pp. 1-44), and "Arthur Schopenhauer" (pp. 45-112), the first is expository and critical, the second chiefly biographical. Printed already as a series of articles, they appear in their present form in celebration of two centenaries,—the *Kritik der praktischen Vernunft* having been published in the year of Schopenhauer's birth.

Moral-Philosophie, gemeinverständlich dargestellt von Georg von Gizycki. Leipzig: W. Friedrich, [1888]. Pp. viii., 546.

The author substitutes this greatly extended and practically new treatise for his *Grundzüge der Moral*, published in 1883 (see Mind viii. 459). What is most distinctly common to the two is the aim to keep the treatment, however seriously conceived in a philosophical sense, upon a level of popular understanding. As before, he pays special regard to authorities of English speech. Critical Notice will follow.

Psychologische Studien zur Sprachgeschichte. Von Dr. Kurt Bruchmann in Berlin. Leipzig: W. Friedrich, 1888. Pp. x., 354.

Mention should have been made earlier of this interesting contribution to the psychology of literature. The studies are two, of about equal length; and in the first of them the author conducts an historical inquiry into thought generally, as manifested in Tradition and Imitation, in Mythology and Religion. In the second, more expressly psychological, study he shows the great part played by Analogy in the building-up of Thought, and deals among other topics with the difference between

Poetry and Mythology, the "contradiction" between Speech and Thought, and especially the development of Speech according to the principle of least expenditure of Energy (here following Prof. Avenarius). In conclusion, he seeks to connect his psychological inquiry with the psychological work of Fechner and Prof. Wundt; while he is led on from his view of the historical development of speech among men to touch upon the problem of History in general.

Das Gedächtnis. Studie zu einer Pädagogik auf dem Standpunkt der heutigen Physiologie und Psychologie. Von Dr. Franz Fauth, Professor an dem König Wilhelms-Gymnasium zu Höxter. Gütersloh: C. Bertelsmann, 1888. Pp. xv., 352.

The author's pedagogical study on memory is contained in bk. ix. (pp. 292-352). His first eight books (i. "Historico-critical Orientation on Unconscious Memory," ii. "Historico-critical Orientation on Conscious Memory," iii. "Unconscious Memory," iv. "Consciousness and its Conditions," v. "The Kinds of Consciousness," vi. "Memory as Conscious Mental Life," vii. "Morbid Consciousness and Morbid Memory," viii. "Language and Memory") contain the psychological foundation, which has to a certain extent an independent value. In the pedagogical part, while he lays stress on the better training of the senses (p. 301), his main contention is that language, and more especially the mother tongue, ought to be central in education (p. 337). He discusses the question whether languages should be taught "inductively" or "deductively," and concludes against the advocates of what is sometimes called the "natural" method. It is only life, he remarks (p. 333), with the greater measure of time it has to dispose of, that can permit itself the luxury of "pure induction". By employment of the mixed inductive and deductive method, the educator renders the learning of a language more rapid.

Lehrbuch der empirischen Psychologie für Gymnasien und höhere Lehranstalten sowie zur Selbstbelehrung. Von Prof. Dr. Wilhelm Jerusalem. Wien: A. Pichler's Witwe & Sohn, 1888. Pp. 160.

The author has already (see Mind xii. 151) put forth some ideas as to the teaching of psychology in Gymnasia; the principal reform suggested by him being the supplementing of the traditional Herbartian treatment by newer methods and results, such as those of Wundt. He has now written a small text-book in which he has been able to work out his ideas at greater length. The divisions of the book are—"Introduction" (pp. 1-13); Part i. "The Receptive Activity of Consciousness" (pp. 13-119), Section i. "Of Sensation," ii. "Of Perception," iii. "Of Representation," iv. "Language and Thought," v. "Feeling"; Part ii. "The Spontaneous Activity of Consciousness," Section vi. "The Movements and the Will" (pp. 119-143); Appendix, "Interruptions and Disturbances of Psychical Life" (pp. 144-157). While taking account of all the "aids to psychology"—physiology, linguistic science, &c.—the author maintains the right position as regards method, pointing out that the psychologist has to interpret all results by introspection.

Optische Häresien, erste Folge und das Gesetz der Polarität. Von Robert Schellwien. Halle-Saale: C. E. M. Pfeffer (R. Stricker), 1888. Pp. vii., 108.

This is an investigation of electrical and optical polarity according to the principles laid down in the author's former volume noticed in Mind xi. 592. His general contention is that the "atomistic-mechanical" view of

nature is insufficient not only in philosophy but also in special scientific investigations, which require for their more successful prosecution the replacement of the theory of uniform atoms acting on one another mechanically by a theory of the absolute unity of being and of the identity of nature with spirit.

Das Geheimniss der Hegelschen Dialektik, beleuchtet vom concret-sinnlichen Standpunkte. Von EUGEN HEINRICH SCHMITT. Halle a. S: C. E. M. Pfeffer (R. Stricker), 1888. Pp. xiv., 144.

This Essay, sent in for the prize offered by the Philosophical Society of Berlin for the best "Historico-critical Exposition of Hegel's Dialectic Method" (see MIND x. 158), has been "named with special distinction" and is now printed among the publications of the Society. The author regards Hegel's philosophy as the "dialectical stage of transition from the abstract world-theory of the past to the concrete world-theory of the future". Hegel's disciples misapprehended his doctrine when they regarded it as a system of absolute truth completed once for all by Hegel. The appearance that it has of claiming to be this is due to Hegel himself having been still to a certain extent at the "abstract" point of view from which his philosophy was to set the European intellect free. In reality the Hegelian philosophy is not a completed dogmatic system, but a kind of "abstract anticipation" of the philosophy of the future.

Die Methode der Eintheilung bei Platon. In einer Reihe von Einzeluntersuchungen dargestellt von Dr. FRANZ LUKAS, k.k. Gymnasial-Professor in Krummau. Halle-Saale: C. E. M. Pfeffer (R. Stricker), 1888. Pp. xvi., 308.

A series of special researches on Plato's "method of division". In Part i. (pp. 1-90) is considered the method of division in the dialogues of which the genuineness is sufficiently established by the testimony of Aristotle (*Republic*, *Timæus*, *Leges*); in Part ii. (pp. 91-143), the method of division in the dialogues universally recognised as genuine though not proved to be so by Aristotle's testimony (*Phædrus*, *Gorgias*, *Theætetus*); in Part iii. (pp. 144-308), the method of division in the dialogues of which the genuineness is neither sufficiently established by the testimony of Aristotle nor universally recognised. What strikes the author on a general review is the great variety of Plato's modes of division and subdivision. They are not less various, he thinks, than those employed to-day, and have still a scientific interest.

Die Entwickelung des Causalproblems von Cartesius bis Kant. Studien zur Orientirung über die Aufgaben der Metaphysik und Erkenntnisslehre. Von Dr. EDMUND KOENIG. Leipzig: Otto Wigand, 1888. Pp. vi., 340.

A history of the transformations undergone by the conception of Cause from Descartes to Kant. The doctrines considered are, in order, those of Descartes, Malebranche, Spinoza, Leibniz, Wolff, Crusius, Bacon, Hobbes, Locke, Berkeley, Hume, the Scottish school and Kant. The author regards Kant's Transcendental Idealism as the conclusion that satisfactorily sums up the whole development.

Geschichte der alten Philosophie von Dr. W. WINDELBAND, ordentl. Professor der Philosophie an der Universität Strassburg. Separat-Abdruck aus dem "Handbuch der klassischen Altertumswissenschaft". Nördlingen: C. H. Beck, 1888. Pp. vi., 220.

The author in his short prefatory note remarks that when, "more than five years since," it was proposed to him to contribute a general view of ancient philosophy to the *Handbuch der klassischen Altertumswissenschaft*, there was nothing of the kind in existence, and that if he had known that Zeller was about to write a Compendium, he would not have begun the present work. It seems as if some mention ought to have been made here of Part i. of Ueberweg's *Grundriss*, to which, though he makes great use of it, and frequently cites it in his Compendium itself, Prof. Windelband does not refer in his preface. The divisions of the book are—Prolegomena (pp. 1-9); A. Greek Philosophy: Introduction (Pre-conditions of Philosophy in Greek life), 1. The Milesian Nature-philosophy, 2. The Metaphysical Ground-contrast: Heraclitus and the Eleatics, 3. Attempts at Mediation (Empedocles, Anaxagoras, Leucippus, Pythagoreanism), 4. The Greek Enlightenment: the Sophists and Socrates (with the Megarics, Cynics and Cyrenaics), 5. Materialism and Idealism: Democritus and Plato, 6. Aristotle (preceded by the Old Academy); B. Hellenistico-Roman Philosophy: 1. The Battles of the Schools (Peripatetics, Stoics, Epicureans), 2. Scepticism and Syncretism, 3. Patristic Philosophy (pp. 201-10, the Apologists, the Gnostics and their Opponents, the Alexandrian Catechetical School), 4. Neo-Platonism. For conclusion there are two short paragraphs on Augustine. The author's treatment as a whole lacks distinctiveness.

Hamlet ein Genie. Zwei Vorträge in Berlin und Hamburg gehalten von Hermann Turck. Reudnitz-Leipzig: Max Hoffmann, 1888. Pp. 52.

This is an interesting piece of criticism, at the ground of which is a view of the nature of genius notable for its psychological precision. According to the author, the understanding of Hamlet's character is not to be sought, as it has so often been, in weakness or moral scrupulosity where action is necessary (which cannot in the least be attributed to Hamlet), but in the effect of a crisis on a "genial" personality. What is characteristic of genius is on the side of intellect freedom in face of its own Ego, that is, the aptitude for taking the impersonal or disinterested view of itself as of all other things, and on the side of will a certain "elasticity" by which the personality, while easily impressible for the moment, yet always reacts so as to remain constant to its own internal nature. Thus the action of the genial character, when deliberate, is the realisation of an internal thought, not simply the carrying out of a purpose willed from external motives, egoistic or other. The idea, which in this general statement may seem over abstract, is skilfully applied to the matter in hand.

Schopenhauer als Philosoph der Tragödie. Eine kritische Studie von Dr. Emil Reich. Wien: C. Konegen, 1888. Pp. 139.

The most distinctive part of this criticism of Schopenhauer's theory of tragedy is the defence against Schopenhauer of the conception of "poetical justice," which, according to the author, rules in all great tragedies. The ideas that are fundamental in tragedy are those of guilt and expiation. The guilt must be due to an act of free-will. "Tragedy stands and falls with the freedom of the will." The expiation must be that which is required by "the moral world-order". Hence "fate-tragedies" are mere "caricatures of true tragedies". In contrast to Sophocles, "the father of the fate-tragedy," Shakespeare may be called "the philosopher of the moral world-order," for he never lets the guiltless perish, as Schopenhauer maintains that he does, but always metes out punishment in exact accordance with the precepts of poetical

justice. This was not always intelligible to former generations, but the present generation of Germans at last understand the ideas of Shakespeare's contemporaries, and see how to them poetical justice seemed always to be observed (pp. 109, 111).

Eugen Dühring. Eine Studie zu seiner Würdigung von Dr. H. Druskowitz. Heidelberg: G. Weiss, 1889. Pp. 119.

An admiring estimate of Dr. E. Dühring, not as a theoretical philosopher, but as "a moral force," by an author some of whose writings have already been noticed in Mind (see Vols. xi. 589, xii. 150, xiii. 306).

Norbert Grabowsky's *Volksbuch über die Kunst glücklich zu werden.* Würzburg: L. Kressner, 1888. Pp. 80.

The author finds in the industrial civilisation of America the starting-point for a pessimistic theory of life. His theory—developed in the form of conversations between imaginary personages—is based, however, on general metaphysical grounds. His position is that there is a certain sum of happiness in the world that can neither be increased nor diminished. If there is increase of happiness in one direction, there must be diminution in another. While accepting the pessimistic element in Buddhism and its practical outcome, he contends for the belief in a personal God and personal immortality.

Autoritäten. Von Dr. Paul von Gizycki. Sonderabdruck aus der Wochenschrift "*Die Nation*". Berlin: F. & P. Lehmann. Pp. 58.

By an "authority," the writer understands a personality having influence over others indefinitely in excess of its physical and intellectual force (p. 8). The causes of this influence he finds to be (1) fear, (2) incapacity of the many for thinking. In modern times—the whole of Europe and a sufficiently long period being taken into view—independence of authorities, both in theology and politics, is visibly increasing.

Received also:—

G. Birkbeck Hill, *Letters of David Hume to W. Strahan*, Oxford, Clarendon Press, pp. xlvi., 386.
T. H. Warren, *Republic of Plato*, i.-v., Lond., Macmillan, pp. lxxv., 324.
J. Wright, *Phaedrus, Lysis, Protagoras of Plato*, trans., Macmillan, pp. 272.
T. W. Hall, *A Correlative Theory of Chemical Action and Affinity*, Lond., Remington, pp. 360.
Ap Richard, *Marriage and Divorce*, Lond., Trübner, pp. xii., 173.
D. J. Hill, *The Social Influence of Christianity*, Boston, Silver & Burdett, pp. 231.
F. Cellarier, *Etudes sur la Raison*, Paris, F. Alcan, pp. 279.
J. Crépieux-Jamin, *L'Ecriture et le Caractère*, F. Alcan, pp. 312.
L. de la Rive, *Sur la Composition des Sensations, etc.*, Genève, Georg, pp. 99.
P. Ceretti, *Saggio circa la Ragione etc.*, i. (Versione dal Latino), Torino, Unione Tip.-Ed., pp. xv., 930.
J. Vanni, *Un Programma Critico di Sociologia*, Perugia, Santucci, pp. 142.
F. Paulsen, *System der Ethik*, Berlin, Hertz, pp. 868.

Notice will follow.

VIII.—NOTES AND FOREIGN PERIODICALS.

The Aristotelian Society for the Systematic Study of Philosophy (22 Albemarle Street, W.).—The Tenth Session opened Monday, Nov. 5, when the Presidential Address was delivered by Mr. Shadworth H. Hodgson on "Common-sense Philosophies". The following meetings have been held:—Nov. 19, a paper by Mr. S. Alexander, V.P., on "The Growth of Moral Ideals," which was followed by a discussion; and Dec. 3, a 'Symposium' on the question "Can the Nature of a thing be learnt from its History alone?" the papers being contributed by the President, Mr. F. C. Conybeare and Mr. G. F. Stout. [Instead of a mere *Abstract of Proceedings* as issued in 1887, the Aristotelian Society has now published (with Messrs. Williams & Norgate) a first Number of regular *Proceedings*. The Number consists of two parts: i. a collection of papers (pp. 5-73) as actually read before the Society in the Session 1887-8; ii. a record (pp. 74-90) of the different meetings of the Society in the same Session, with abstracts of most of the other papers read (but not printed at length in the first part); followed by an Appendix (pp. 92-7), giving all other information about the Society.]

The Wykeham Chair of Logic at Oxford is now vacated by Prof. T. Fowler, who has held it since 1872.

The Neo-Scholastic movement is now represented by a philosophical periodical (bearing the name *Philosophisches Jahrbuch*, and edited for the "Görres-Gesellschaft" by Professors C. Gutberlet and J. Pohle), for notice of the first three numbers of which see below. It is to be published quarterly (in March, June, September and December), and each (annual) volume is to contain not less than 480 pp. In accordance with the recommendations of the Papal Encyclical "*Æterni Patris*," the *Philosophisches Jahrbuch* will treat both the older and newer problems of philosophy, in view of present needs, in accordance with the general principles of Christian Scholasticism, and more especially (though not exclusively) of Thomas Aquinas. Without being directly apologetic, "it will, by refutation of philosophical errors, obviate also the objections against the Christian faith that have sprung from these".

[An effort will be made to give henceforth something more than mere titles for more important articles in the Foreign Periodicals—according as a new volume of each is reached: in the case of old volumes still running, titles only continue to be given below.]

American Journal of Psychology.—Vol. i., No. 4. G. T. W. Patrick —A further Study of Heraclitus. Psychological Literature (The Nervous System; Experimental; Hypnotism; Abnormal; Anthropological; Miscellaneous). Notes.

Revue Philosophique.—An. xiii., No. 10. P. Janet—Introduction à la science philosophique. iii. La science et la croyance en philosophie. B. Bourdon—L'évolution phonétique du langage. T. Ferneuil—Nature et fin de la société. Rev. Gén. (G. Tarde—La crise de la morale et la crise du droit pénal). Analyses, &c. (C. Mercier, *The Nervous System*, &c.). Correspondance (J. Dickstein—Sur l'introduction de la philosophie de Kant en France). No. 11. A. Fouillée—Philosophes français contemporains: M. Guyau (ii.). E. Durkheim—Suicide et natalité. G. Sorel—

De la cause en physique. Notes et Discussions (A. Binet—Sur les rapports entre l'hémianopsie et la mémoire visuelle. M. Blondel—Une association inséparable : L'agrandissement des astres à l'horizon. G. Vandame—Questions de philosophie mathématique). Analyses, &c. Rev. des Périod. No. 12. E. G. Balbiani—Les théories modernes de la génération et de l'hérédite. A. Fouillée—M. Guyau (fin). P. Regnaud—Le Verbe : ses antécédents et ses correspondants logiques. Notes, &c. (P. Tannery—Sur la notion du temps. G. Lechalas—Sur l'agrandissement des astres à l'horizon). Analyses, &c. Rev. des Périod.

La Critique Philosophique (Nouv. Sér.).—An. iv., No. 9. L. Dauriac—Dogmatisme, scepticisme, probabilisme. C. Renouvier—*L'homme criminel* de C. Lombroso et le criminel systématique de deux romans récents. . . . No. 10. C. Renouvier—Etude philosophique et historique sur le suffrage universel en France (i.). F. Pillon—La classification des sciences de M. H. Spencer, &c. L. Dauriac—Art et philosophie. F. Pillon—Les observations de M. Preyer sur la psychologie de l'enfant. Kant—*Les Principes métaphysiques de la science de la Nature*, Préface (trad.). No. 11. C. Renouvier—Etude philosophique, &c. (ii.). E. Clay—Défense de *L'Alternative*. H. Dereux—Du fondement de la morale d'après Herbart. G. Lechalas—Le problème des mondes semblables. . . . Kant—*Les Principes*, &c., c. i. (trad.).

Rivista Italiana di Filosofia.—An. iii. 2, No. 2. P. L. Cecchi—I sistemi e il metodo nella filosofia della storia. L. Credaro—I corsi filosofici all' università di Lipsia e il seminario sperimentale del Wundt (i.). R. Bobba—*Della idea del vero*, &c., del prof. L. Ferri (i.). Bibliografia, &c., No. 3. L. Credaro—I corsi, &c. (ii.). R. Benzoni—La dotrina dell' Essere di Rosmini. R. Bobba—*Della idea*, &c. (ii.). S. F.—Sulla teoria della conoscenza in Senofane. Bibliografia, &c.

Rivista di Filosofia Scientifica.—Vol. vii., No. 5. E. Dal Pozzo di Mombello—Luce e colore. V. Valeriani—La costanza del nostro pensiero logico, e la scienza e la pratica dell' educazione. Riv. Anal., &c. No. 6. P. Merlo—La piu antica poesia dell' India. M. A. Vaccaro—Sulla genesi del delitto e della delinquenza. Note Critiche (G. Martinotti—Il progresso delle scienze e la 'forza vitale'. G. Bianchi—Perchè gli artisti moderni odiano la linea). Riv. Anal., &c. No. 7. E. Belmondo—Il sentimento religioso come fenomeno biologico e sociale. G. Fano—Di alcuni metodi di indagine in fisiologia. Riv. Bib., &c. No. 8. R. Ardigò—Il vero è il fatto della coscienza. G. Cesca—La metafisica empirica. V. Grossi—Il *Folk-lore* nella scienza, nella letteratura e nell' arte. Note Critiche, &c. (A. G. Bianchi—Coscienza e libero arbitrio in arte. A. de Bella—Programma di un' opera di sociologia. R. Fusari—Le ultime teorie sull' eredità). Riv. Bib., &c. No. 9. R. Schiattarella—I precursori di G. Bruno. G. d'Aguanno—Origine del diritto di successione. Note Critiche (E. Tanzi—Intorno all' associazione delle idee). Riv. Gen. Riv. Bib., &c.

Zeitschrift für Philosophie, &c.—Bd. xciv., Heft 1. R. Seydel—Kants synthetische Urtheile a priori, insbesondere in der Mathematik. [Kant's neglect of the distinction between the "content" and the "function" of knowledge, *i.e.*, of the distinction between its character as knowledge and its psychological relation to the knower, has caused him to assume real synthetical judgments where only analytical judgments need be assumed.] R. Manno—Wesen und Bedeutung der Synthesis in Kants Philosophie. [A prize essay, partly expository and partly critical, "crowned" by the Philosophical Faculty of Bonn.] J.

Wahn—Kritik der Lehre Lotzes von der menschlichen Wahlfreiheit. [Lotze's doctrine of free-will makes a gap in his philosophical system; the assumption of indeterminism being inconsistent with its two fundamental thoughts—"the pantheistic explanation of reciprocal action and the teleology". Nor does Lotze's indeterminism "solve its own problem"; for in reality it is only the necessary connexion of psychological cause and effect that can justify the attentive cultivation of the sense of duty.] Recensionen, &c.

Philosophische Monatshefte.—Bd. xxv., Heft 1, 2. G. Heymans—Erkenntnisstheorie und Psychologie. [Empirical psychology, though not itself theory of knowledge, is still not without bearing on questions of validity.] Th. Lipps—Psychologie der Komik (iii.). [On "the naïve and humour".] F. Tönnies—Herb. Spencer's sociologisches Werk. [An appreciative but independent examination of vol. i. of the *Principles of Sociology*, on completion (1887) of B. Vetter's German translation of it, made upon the enlarged 3rd ed. Perhaps the most noteworthy point is what is said as to the nearer approach in Mr. Spencer's later writings than in his earlier ones to Rousseau's conception of primitive man. Occupation with the facts, the author says, has modified for the better Spencer's *a priori* thought that egoism is more predominant as we get nearer the origin of society.] Litteraturbericht (A. Alexander, *Some Problems of Philosophy*, &c.). Bibliographie, &c.

Zeitschrift für Völkerpsychologie u. Sprachwissenschaft.—Bd. xviii., Heft 3. L. Tobler—Ueber sagenhafte Völker des Altertums u. Mittelalters. C. Haberland—Ueber Gebräuche u. Aberglauben beim Essen (Fortsetz.). H. Baynes—Die indo-chinesische Philologie. Beurteilungen (A. Lang, *Custom and Myth*, &c.). Heft 4. C. Haberland—Ueber Gebräuche, &c. (Schluss). W. Schwartz—Zwei Hexengeschichten. P. Jensen—Ausruf, Frage u. Verneinung in den Semitischen Sprachen. H. Steinthal—"Höret ihr Himmel, merk Erde". Beurteilungen.

Vierteljahrsschrift für wissenschaftliche Philosophie.—Bd. xii., Heft 4. J. v. Kries—Ueber den Begriff der objectiven Möglichkeit u. einige Anwendungen desselben (Schluss). G. Heymans—Zur Raumfrage (ii.). K. Lasswitz—Galilei's Theorie der Materie (i.). A. Meinong—Ueber Begriff u. Eigenschaften der Empfindung (ii.). Anzeige. Selbstanzeige, &c.

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Archiv für Geschichte der Philosophie.—Bd. ii., Heft 1.—E. Zeller—Ἡγεμονία und δεσποτεία bei Xenophanes. [That the opinion of Xenophanes, according to the report of Theophrastus, as given in a passage from the pseudo-Plutarchian Στρωματεῖς cited by Eusebius (*Pr. Ev.*, i. 8, 4), must be held to deny all lordship of one god over others, and not merely the "despotic" (in the sense of "harsh") government of the other gods by Zeus. Consequently the opinion cited implicitly denies polytheism.] J. Freudenthal—Zu Aristoteles *De Memoria* 2. 452a 17f. E. Arleth—Βίος τέλειος in der aristotelischen Ethik. [That Aristotle (*Eth. Nic.*, i. 6) does not affirm that for the βίος τέλειος happiness must extend over the whole of life, but only that the duration

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Philosophisches Jahrbuch.—Jahrgang i., Heft 1. C. Gutberlet—Die Aufgabe der Christlichen Philosophie in der Gegenwart. [Amidst the confusion of philosophical schools, Catholic philosophy at least is in no doubt as to what speculative direction to strike into. "It needs only to join on to the tradition of the fore-time, to take up again the connexion, for a time violently broken off, with the genuinely Christian and only absolute and true speculation," *viz.*, the philosophy built up on an Aristotelian foundation by the Christian Scholastics.] J. A. Endres—Des Alexander von Hales Leben und psychologische Lehre (i.). J. Pohle—Ueber die objective Bedeutung des unendlich Kleinen als der philos. Grundlage der Differentialrechnung. [An attempt to prove on philosophical grounds that the conception of infinitesimals is not a mere "mathematical fiction," but corresponds to "an intelligible reality".] J. Pohle—Zur Statistik der philosophischen Weltlitteratur des Jahres, 1887. Recensionen u. Referate (H. Spencer, *Die Principien der Sociologie*, &c.). Zeitschriftenschau, &c. Heft 2. C. Gutberlet—Die Psychologie ohne Seele. Kadeřávek—Vom Ursprung unserer Begriffe (i.). J. A. Endres—Des Alexander von Hales, &c. (ii.). Recensionen, &c. Miscellen u. Nachrichten (Nekrologe über Carl Werner und Matthew Arnold). Heft 3. J. A. Endres—Des Alexander von Hales, &c. (Schluss). [This series of articles consists of a biography of Alexander of Hales, followed by an exposition of his doctrine of the soul, copiously illustrated by citations.] G. Grupp—Die Anfangsentwicklung der geistigen Cultur des Menschen (i.). [The first part of an article intended to exhibit the essential differences of man from the lower animals.] Kadeřávek—Vom Ursprung unserer Begriffe (Schluss). [The systems of "ideæ innatæ," of "Materialism, Sensualism and intellectual Empiricism," of "Traditionalism" and of "Ontologism" (examined in the author's first article) all "contain something true," but in a one-sided manner. The fundamentally true doctrine of the origin of our conceptions is "the abstraction-theory of Aristotle and the Scholastics".] Recensionen, &c.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—THE DOUBLE BRAIN.

By Henry Maudsley, M.D.

I.

Is the brain, which is notably double in structure, a double organ, "seeming parted, but yet a union in partition"? Or is it a seeming whole made up actually of two organs? Have we, in fact, two brains as we have two eyes, two lungs, two kidneys? Or have we one brain as we have one body, built up of two similar halves?[1]

Whatever the fact, we are entitled to declare the action of both halves or of both organs to be necessary to the fullest function of the organism. We see better with two eyes than with one eye, breathe better with two lungs than with one lung, do more with two arms than with one arm, although one eye, one lung, one arm will serve in case of need. This is true where the organs are two, separate and independent,

[1] In his original and suggestive book on *The Duality of the Mind* (1844), a book which has never perhaps obtained the attention which it deserved, Dr. A. L. Wigan enunciated and maintained the doctrine that the two hemispheres of the brain are really two distinct and entire organs, and each respectively as complete (indeed more complete), and as fully perfect in all its parts for the purposes it is intended to perform, as are the two eyes.

much more true, therefore, where the organ is one whole made up of two halves. In the former case the loss of one organ would mean so much subtraction of function only, a loss which might be made good by the increased action of the other that was left; in the latter case the loss of one half would not be a lessening only, but a laming of function, which could not be compensated by any increased action of the remaining half.

When we reflect upon the intimate constitution and structural connexions of the brain, it seems the natural conclusion that it is not formed of two distinct organs any more than the body is formed of two distinct bodies; that, like the body, it is a bilateral structure. Essentially it is a great aggregate of nerve-centres and nerve-tracts, part of, and administering organ in, a circle of communication between the organism and its medium, nowise a separate and paramount centre of authority, a sort of supreme organ apart, as ordinary language might seem sometimes to imply; an aggregate with which all parts of the body are in communion, mediate or immediate, in which they may be said to have direct or indirect representation, through which the whole works in each part and each part in the whole; and it is bound, therefore, by its constitution and relations, however great the separateness of its halves in respect of some functions, to be fundamentally a double organ ministering to one function, the function of one body. It represents at the same time the halves of the body and the unity of the whole whereof itself is part.

That the halves of the double brain, like the halves of the body, have corresponding functions, one perhaps having fuller function than the other, but the work being of the same kind, is a conclusion warranted by (*a*) their similarity of conformation and structure; (*b*) the fact that they are respectively in communion with and representative of similar organs and structures of the body; (*c*) the observation that the one hemisphere may do the work of both hemispheres in thinking and feeling when the other is destroyed; (*d*) the results of artificial experiments on animals and of the natural experiments yielded by disease in man, which agree to locate many corresponding sensory and motor centres of the cortex in the hemispheres.

Are the halves of the brain capable of acting singly as well as conjointly? Of this there can be no doubt. The right half certainly governs the movements of the left limbs and the left half the movements of the right limbs; wherefore, when anyone makes a series of movements with his right

hand while his left hand is at rest, the proper nerve-tracts of his left hemisphere are working while the corresponding tracts of his right hemisphere are at rest. Moreover, so far as he is planning his acts and thinking of what he is doing, that is to say, performing his movements ideally, we must assume that the cortical plexuses of the brain, the thought-substrata of it, are at work on the left side and at rest on the right side.

It is certain, again, that the two sides of the brain are able to act differently when acting together—that they may direct different but harmonious movements in the corresponding limbs of the opposite sides of the body. In various complex feats of bodily skill, in which each limb is differently employed at the same time while co-operating to a common end, the right brain must be occupied in directing a series of movements of the left arm and leg, and the left brain a series of movements of the right arm and leg. Moreover, the movements in either case might be such as the proper hemisphere only could accomplish. There are notably movements which the one hemisphere can, but the other cannot, do: the act of writing, for instance, implies an orderly series of finely specialised movements of the right hand which the left hemisphere has been patiently educated to command and execute, but which the right hemisphere certainly cannot command the left hand to perform; therefore the right brain is at rest when the tracts of the left brain which subserve writing are at work, and cannot even think the special movements when the left tracts are destroyed. It is the same with speech, the cerebral centre of which is proved by pathological observations and experiments on animals to be in the lower part of the third or ascending left frontal convolution. Indeed, the capacities of the most highly specialised movements seem, so far as we know, to be contained only in one—the opposite—hemisphere. The most highly specialised movements of the hand, at any rate, are lost after a complete destruction of the proper cortical centres of the forearm and hand; permanent paralysis ensues, since the other hemisphere does not take up the work. It cannot do so, presumably because it has not been taught the fine special work.[1]

[1] It is almost universally admitted now that each cerebral hemisphere contains the centre of voluntary movements and of sensory perceptions for the opposite side of the body; experiments on animals and observations of disease in man having apparently put the conclusion beyond all reasonable question. All the more surprising is it, therefore, to find Prof. Brown-Séquard continuing to express an unqualified dissent and

From what has been said it appears plainly that the functions of the hemispheres, and of the respective tracts in them, may be—

(1) *Single*—when one may replace the other, directing the same kind of act with a different instrument, as when either right or left hand is used, or when the one hemisphere does work which the other cannot do.

(2) *Conjoint and correspondent*—when they combine the same series of movements to a common end. When they do that, as they do for the most part automatically, having been patiently trained to the work, it is probable, almost certain, that the impulse from one hemisphere suffices to excite the proper movements, either because it acts upon associated subcortical motor centres which are the more direct agents of them, or because it instantly draws in its train of action the associated cortical centres in the other hemisphere. In the former case the subordinate centres form a bilateral nucleus or centre; in the latter case the supreme cortical centres have that character. For we may note here that it does not matter whether the associated centres in such case lie close together so as apparently to form one organ or not; if they are closely united in structure by fibres of association, and habitually associated in function, they are practically one notwithstanding that they lie some distance apart. From experiments on animals we learn that, when a cortical centre innervating muscles which are in the habit of acting in concert with corresponding muscles on the opposite side is destroyed, the corresponding centre in the opposite hemisphere takes up the function of the destroyed centre, and so prevents permanent paralysis.

(3) *Conjoint and different*—when the hemispheres combine to dictate different movements of the two sides for a common end, just as the eyes combine their different

believing that he has demonstrated the accepted localisation to be erroneous. In a recent number of an American popular journal (*Forum*, vol. v., No. 2, p. 169) he says: "I have shown by a large number of facts that this localisation is erroneous. In reality we have two full brains, as each hemisphere is endowed with all the powers we believe to exist in the two cerebral halves. It is now recognised that one-half of the cerebrum is enough for all intellectual functions; but facts show that this is the case also for the power of speech (notwithstanding what is so often seen in cases of aphasia), and for all the motor, sensorial and sensitive functions." One would receive this opinion of so practised a vivisectionist with more assurance had any adequate result ever come from the multitude of his cruel experiments through a long physiological life.

visions of one object. And here it may be noted that the principle holds which was observed in corresponding movements of the two sides—namely, that centres habitually associated in function, although it be not now in correspondent but different movements, become in respect of that function practically one, a bilateral nucleus or organ, only with its halves of different structure, when the excitation of one will be the excitation of both.

Although the most highly specialised movements are thought to proceed from one hemisphere only, the conclusion may not be true of such highly specialised movements as are done habitually by the two hands in concert. In this case the necessary muscles on the two sides which act in concert might probably be put into action from either hemisphere, as happens with the movements of the two eyes, of the two sides of the face, of the two vocal cords. Adequate account must be taken of the effects of education. It would be quite possible to teach a child to write with its left hand instead of with its right hand, in which case the right hemisphere would be taught; or to teach it to write with both hands, if it were worth while, in which case both hemispheres would be taught; or to teach the two hands to act habitually together, if not in writing, at any rate in the performance of movements as fine and highly specialised as those of writing, in which case it is probable that either hemisphere would be able to actuate the necessary movements. Now it is notably much easier to teach the right hemisphere writing than it is to teach it speech, and it is not difficult to understand why. In the first place, the hands are entirely separate and able to act independently, while the tongue is one organ, bilateral, which, from the first, has moved as a whole and been governed by one hemisphere; and, in the second place, the left hand has been through life trained to finely specialised movements which render it the apter to acquire the new specialised movements of writing. But the main reason is, perhaps, that years are required to learn the exceeding nice, exact, numerous and complex movements of speech, which really go along in their acquisition and development *pari passu* with the acquisition and development of reason, whereas the simpler, fewer and less fine movements of writing may be taught in a few months. Words being the symbols of reasoning, the definite fixing of them and of the fine shades of their meaning—the nice and exact organisation of their proper nervous substrata—need long time and work, but once they have been acquired it is not so difficult to

substitute other symbols for them; if a person, therefore, who has lost the use of his right hand retains his power of speech and reasoning, it ought to be little more difficult, if not easier, to teach him to write with the left hand than it was to teach him in the first instance to write with his right hand. To teach his right hemisphere language when he had lost the function by destruction of its seat in the left hemisphere would entail a far longer and more difficult labour; it can be done best, therefore, in children, in whom the effects of the destruction of the speech-centre in the third left frontal convolution are usually temporary, can be done also to a large extent, sometimes even entirely, in young adults, but can only be done very imperfectly at the best in old people.

It appears plainly, then, in respect of movements, that the hemispheres have not entirely correspondent and equivalent functions, but that beyond their functions in common either has a certain independence and particular function, directing some special actions of its own, and that the left hemisphere is commonly the most richly endowed, governing entirely some of the most specialised movements. What is true of the outgoing current in action upon the medium as movement is true also of the ingoing currents from the impressions made by the medium in sensation and perception; for it is impossible to separate the motor from the sensory element in perception, which is essentially reflex action at a higher remove.

It remains now to consider how the hemispheres act towards one another in thinking. If a person who is performing one kind of act with one hand and another kind of act with the other hand will endeavour to think of both acts at the same moment, he will discover that he cannot do so; although he can execute the respective motions simultaneously, he cannot think them simultaneously; he must pass in thought from the one to the other, a rapid alternation of consciousness taking place. The alternation, although rapid, is by no means instantaneous; it is distinctly succession, since there is an appreciable pause in the performance of it. A simultaneous consciousness in such case would necessarily be a distracted or dual consciousness, for it would be the coexistence of two different states of consciousness at the same instant. If it be true that the hemispheres can work together simultaneously at different work, but cannot think together of it simultaneously, it is evident that the conditions of joint motor work by them are different from the conditions of

joint consciousness—that they are more separate as conscious than as motor agents, or at any rate than the motor centres concerned. Is it that they act together like a bilateral nucleus in the motor work, but act independently in the consciousness of it? Or is it that the actual motor agency is in closely associated subordinate centres, and that its thought-representation, the ideal notation or symbolism of it, so to speak, is in the convolutions?

When we try to conceive the physical side of that alternating experience, there are three suppositions which it seems possible to make: (1) that consciousness exists at one moment in the one, and at the next moment in the other, hemisphere; (2) that the hemispheres act together by a sort of immediate sympathy or induction during the alternating instants that we are conscious of their respective doings, the one suspending its own consciousness and repeating instantaneously that of the other the moment we pass in thought from the work of one to that of the other—the suspension of function being limited to consciousness, since the motor work goes on; (3) that one hemisphere or one nervous tract of it can perform function consciously at the same moment that the other hemisphere or a different tract of it is performing a different conscious function.

The last supposition may perhaps be dismissed without more ado, since it would involve the coexistence of two different consciousnesses at the same instant; the second is improbable, since it postulates a repeating action of the second hemisphere which is hardly consistent with the continuance of its different motor work, and which seems unnecessary in face of the observation that one hemisphere suffices for consciousness; there remains, therefore, the third supposition, of an alternating action of the hemispheres corresponding to the alternating consciousness.

It seems so natural and easy for the hemispheres to act together in function that we do not sufficiently consider that it was necessary to teach them to do it in the first instance and how much teaching they required in order to do it. We cannot perform simultaneously different movements dictated by them until we patiently learn the habits by practice: the requisite movements must be made automatic by frequent repetition and laboured attention, if we are to succeed well. Consider how awkwardly incompetent everyone is to perform at the same time two different and strange actions, the one with the one and the other with the other hand: he cannot for the life of him keep them going together at first, but must pass from the one to the other, boggling with both,

until he has gained the skill of habit, when he performs them together with perfect ease. What is the process of learning? He begins by performing the movements on either side slowly and alternately; by and by, as he gets expert by practice, he does them more rapidly and alternately, and finally, as he gains complete skill, is able by practice to combine them and to do them easily together: he puts the hemispheres, in fact, into alternate action until the proper centres in them, or the proper subordinate centres, as the case may be, have been trained to such close and fit association as to act together automatically and as one centre. The conjoint action of the hemispheres is practically in that case the single action of one compound centre. Herein we perceive plain and pregnant proof of a continuous and gradual education for joint action, the extent of which, since it begins and goes on from the first moment of life, we do not commonly realise.

It is tolerably certain that the full function of such compound centre, once it has been thoroughly organised as such, can be instigated by an act of will proceeding from either hemisphere—that the excitation of either half of it in that way will be the immediate excitation of the other half. At any rate this is true when it is acting through instruments so separate as the two arms and legs. A skilful pianist who is able to converse at the same time that he is executing a difficult piece of music must, I take it, require for his performance some co-operation of the cortical tracts of his brain; and, if that be so, it is a reasonable surmise that the one hemisphere is employed in that function while the other is employed in conversation. When he first learnt to play that piece of music he was obliged to attend to each note as he struck it and to laboriously associate in action the proper tracts in the two hemispheres; at that time he could not for the life of him have carried on a conversation at the same time; but afterwards, when he has perfected the necessary mechanism of association by repeated practice, he is able to put it under the direction of one hemisphere and to employ the other differently. Not that there is probably in such case simultaneous consciousness of the different operations; such consciousness as there is being, I make no doubt, in extremely rapid alternations.

That which is true of parts so separate and independent as the two arms seems not to be true of parts so closely bound together structurally as to form one organ—the tongue, for example; its halves cannot act separately, they must act together in relation to one another and in relation to the

very nice and complex movements of the lips and palate. The *one* organ cannot in such case afford equal authority to two governing hemispheres, since its unity demands a unity of authority. And inasmuch as its halves have from the first moment of life been taught to act together, whichever hemisphere got the lead at the beginning—as the left hemisphere commonly would, the right side of the body notably taking the lead and getting the preference in education—was bound to keep it; the education of the other must needs be precluded by the ground being entirely occupied. How is it possible to teach the right hemisphere speech while the left is in full and active possession of the function? There is practically no organ for it to actuate, since the one organ has been appropriated by the left hemisphere, which cannot, or at any rate does not, suspend its function from time to time in order to give the right the opportunities to learn it. It would be easy to teach the latter writing, were it worth while, because it has a separate organ available for the purpose; but as we deliberately do not think it worth while to learn to write with either hand, although perfectly able to learn the double accomplishment, it is not for us to accuse nature of parsimony because she has deemed one hemisphere enough for speech, and so doomed to speechlessness the unfortunate person whose left frontal convolution has been destroyed, notwithstanding that the corresponding convolution of the right side remains safe and sound, and, so far as appears, functionless. Faithful to its central purpose of providing for the continuation of the species against all hazards by a profuse excess of germs, most of which are produced only to die, it has shown more regard to bodily propagation—since it leaves one testicle capable of full function when the other is destroyed—than to intellectual propagation.

Whence comes the unity of authority in the diversity of movements dictated by the hemispheres when they are cooperating in a common act? When the two sides of the body combine different movements to a common end we assign the governing principle to the brain, but from what higher source do the hemispheres of the brain obtain their governing principle of unity? How is it that when dictating different movements they yet have an understanding in common and work together to a common end? The answer is that the unity does not come from above but from below; it is not something imposed authoritatively on them, but something acquired painfully by them; they get their conception of the aim of the act, the unity of it, from the tedious

training of experience in doing it. Like the two hands, the two hemispheres cannot act together until they have been taught, and can only act together in that wherein they have been taught. I may perhaps compare their joint action to that of two lithe and supple acrobats who can writhe their bodies in a conjunction and succession of the most rapid, nice and complicated movements to perform skilful feats of tumbling, which they have thoroughly learnt to do by practice but cannot do until they have learnt them by much travail and pains. In that case we have two separate brains at work in a co-operation of the most thorough and exact adaptations to accomplish an end, the one brain taking the lead or yielding it to the other as required. What is it that unifies their action? The end or aim in view. And what is the end or aim? The conception or foresight of the act, its ideal accomplishment, which is derived from experience—either individual working experience, when it is exact, full and capable, or observation of the built-up experience of others, when it is vague and general only, incapable of unifying successfully the movements of the two bodies, capable only of supplying them with a general purpose to direct the work of gradual adaptation through repeated trials and patient practice. The purpose is complete and definite only when the effect can be completely and definitely accomplished. Now just as either of the acrobats has the conception of the aims or ends of his respective feats, and both must have a common conception in their workings together, so it is probable that either of the hemispheres has the conception of the end of a joint action, and that both have it in common when they begin to perform it.

In this relation it is of the first importance to realise and weigh well the great work of education in building up our perceptions, judgments and powers of action, none of which would exist without the training of experience. Certainly perceptions are not the mere impressions on sense which they seem to be when we have acquired them, but are acts of inference or judgment grounded on experience: so easy and natural to us are they when formed that we fail to remember that we were not born with them, and to realise how slow and tedious their acquisition was actually. The first movements of the infant are notably uncertain, irregular, uncombined; they become definite, regular, and are combined by practice; more and more so day after day by insensible degrees, until they attain an automatic ease and exactitude. The two halves of the brain, which could not in the first instance work together, learn to do so by

practice.[1] It is exactly the same probably with regard to perceptions as it is with regard to movements: they are at first confused, uncertain, perhaps even double, the infant seeing one object as two objects, but become clear, definite and single by practice; more and more so by insensible degrees, until they take place in the end easily and almost unconsciously. How then should the hemispheres think separately, any more than the two eyes see separately, when they have been trained to work together from the first moment of birth? The perception of an object means fundamentally an aggregate of the different sensory effects which it is capable of producing in one being and the different responsive movements which that being is capable of making in relation to these impressions;[2] wherefore, if his hemispheres acted separately in thought, he would be brought to the contradictory impossibility of thinking as two objects that in relation to which he, one being, had always been obliged to feel and act as one object. The unity of feeling and action must entail unity of thought. To have always seen two objects as equally real where there was only one object would have been to confound or actually destroy uniformity of action in regard to it—in fact, to preclude true apprehension of it in thought; practical life would then have been possible only on condition of some difference in the two impressions, whereby we might learn to regard the one and to disregard the other, as we notably do in some instances of double vision.

As it is evident that consciousness attends the training to act together of the nervous tracts or centres in the divisions of the brain, and lapses when by association of functions they have been so firmly co-organised as to act together as one, it is easy to understand that in ordinary perception and thought, the automatic kind of daily work which involves no great attention, the action of one hemisphere, if it suffice not of itself, may entail the requisite action of the other hemisphere. Presumably it is where the indi-

[1] No doubt there is a certain innate predisposition or inclination of the hemispheres to enter into joint action, a sort of waiting readiness, not otherwise than as in two bodies which, without previous instruction, accomplish a sexual union that is entirely new to them; and at any rate they can do together simultaneously what one might have to do successively, and so save time.

[2] The eye in perceiving or *apprehending* literally *grasps*, like the hand, only it grasps the image, not the object; and if the object be indistinct and uncertain, as it is when it is a long way off, the eye, like the hand, makes repeated grasps, as it were, until it hits on the fit one—searches and tries, in fact, until it succeeds in the fit motor apprehension.

vidual is labouring to grasp some new thought, to compass a new apprehension, or where he is giving strong attention to a process of reasoning—where, in fact, new adjustments and new combinations of nerve-plexuses to new facts and relations are being made—that the process of associating the hemispheres to act together in one function is going on. The fullest voluntary attention would seem to demand their conjoint action; perhaps the proportions and relations of things thus obtain representation in more adequate conceptions; there may be a strength and grasp of thought in the union which there could not be in the single action; and at any rate there will be a saving of time and wear by their doing together simultaneously what the one would have to do successively. So it is perhaps that we need the joint action of the hemispheres to apprehend best intellectually, just as we need the joint action of the two hands to apprehend or grasp best physically, and the joint action of the two eyes to see best. In looking at an object in front of me there is notably a part which I see with one eye only, a part of it which I see with the other eye only, a much larger, in fact the greatest, part which I see with both eyes, the fields of their visual consciousnesses coinciding there; instead of seeing two objects, as I probably did in the first instance when I began to see, I combine the two images, blending into one perception that which my eyes see in common in the object, and uniting it to that which either eye sees. So I get one object in relation to which I can act definitely instead of two objects in relation to which, both looking equally real, action would be confounded. If we suppose something of the same kind to take place in single function of the hemispheres, then in the joint action of them for a definite purpose—which we may take to be the equivalent of the joint bodily action itself at a higher remove—there will be that which is special to either hemisphere, however little in some instances, and there will be that large part which is common to them in most instances; and these elements will have been combined into one idea by the education of experience, as the impressions of the two eyes are combined into one image. Obviously the hemispheres are bound by their structural connexions with corresponding organs of sense and movement to have an immense deal in common. Now just as in vision, once the image has been acquired by experience, the momentary impression of the object on one eye is a sign quite sufficient to awaken it fully—(and a mere sign it is, which without the previous instruction we should no more be able to interpret into the object than we should

be able to understand the words of an entirely unknown language)—so may it be in thought that, once the idea has been acquired by experience, the least suitable stimulus to either hemisphere suffices to excite it fully.

If the hemispheres supplement one another in the acquisition and development of thought, we may well hesitate to conclude absolutely, as is sometimes done, that the complete loss of one occasions no impairment of the powers of mind. One would expect, *a priori*, to observe in a case of such damage less power of thinking new thoughts and more time taken in the process, less power of grasping and holding a thought, less power of sustained thought, less power of the functions which we include under the term attention. What are the facts? Unfortunately they are not yet accurately known; for although no appreciable injury to the mental powers has been discovered in those cases in which one hemisphere is said to have been entirely destroyed by disease, it is by no means quite certain that the observations were sufficiently thorough and exact—first, in verifying the completeness of the destruction of the one hemisphere, and, secondly, in making the careful inquiries necessary to test intimately and thoroughly the mental functions of the damaged individual. Those who have made the experiments on animals certainly hold it to be "a demonstrated fact that the removal or destruction of one hemisphere abolishes motion and sensation unilaterally, but leaves the mental functions unimpaired in respect of completeness; that the brain as ministering to motion and sensation is a single organ formed of two halves, but a dual organ as organ of thought".[1] But here again there may be excuse for some hesitation to accept the conclusion absolutely—at any rate, in its implied extension to man; for, in the first place, the very difficult business of ascertaining the animal's exact mental state after the severe experiment may well warrant some reserve of judgment, and, in the second place, it is hard to believe, if speech is located in the left hemisphere, that a man's intelligence can remain wholly unaffected by its entire destruction. It is obvious that he might have the ordinary feelings and thoughts of life, and behave like other persons in the ordinary relations of life, while many subtle defects were hidden under the show of complete soundness.[2]

[1] Dr. Ferrier, *Functions of the Brain*, p. 426, 2nd ed.

[2] It is the more difficult to accept unreservedly the conclusion of the singleness of the organ as ministering to motion and sensation, and of

It is perhaps easier to conceive that one hemisphere may do well the ordinary work of thinking, feeling and willing when the function of the other is entirely suspended or abolished than it is when its function is not abolished entirely, so leaving the sound one free play, but is deranged or discordant. In this case the sound hemisphere must, if the person is to remain sane in thought, take the lead and correct the disordered function of the unsound hemisphere. So only can unity of thought be preserved; for if there were equal authority in the deliverances of the two hemispheres, the one being as much regarded as the other, there could not fail to be distraction and the reign of disorder. The person would most likely think double, as he sees double when disorder of the action of the eyes, giving visual results contrary to his uniform experience, causes him to see one object as two objects; in which case notably he is sometimes able after a while to learn to disregard the second object—all the more easily when the two objects are wide apart than when they are close together or overlap. Now, if the one hemisphere can take so decided a lead as to control and correct the other when it is deranged, and in that way to maintain order over disorder, it may be taken as additional evidence that it can by itself subserve the ordinary processes of thought, feeling and will: a conclusion which obtains, perhaps, further confirmation from the fact, already commented on, that in complex action for a definite end one hemisphere may be dictating one kind of movement while the other at the same time dictates a different movement.

One loss the person who loses the use of a hemisphere certainly sustains—namely, the loss of nearly one-half his reserve-power; he has nothing to fall back upon should the serviceable hemisphere fail him. Moreover, a continued strain of work on this under all conditions of health, even when some temporary indisposition unfits it for full function, will predispose and may in the end lead to permanent disorder of its structure.

II.

When we exert will, either to think closely or to do resolutely, we draw upon the affective life or life of feeling for

its complete duality as ministering to thought, if we stand by the generally received doctrine of sensory and motor areas in the cortex. Are corresponding sensory and motor centres of the cortex on the two sides a single organ, and the closely adjacent or perhaps actually intermixed cortical centres or tracts of thought on the two sides entirely dual?

the driving force. The intellect deals only with the clearness or dimness, the definiteness or indefiniteness of ideas, it supplies no motive energy; all the ideas in the world might pass through it without there being any feeling or desire in relation to them—without appetence or inappetence; it would never experience the least motive of indulgence towards one rather than another, would never tend to one rather than another. The desire tinging any idea, the affective tone or element of the idea, its motive power, comes from the affective life. Now as it is certain that ideas belong to the cerebral hemispheres, being elaborated and performed there, so it is certain that the sources of the passions or affections of mind are distributed through the whole body; they spring and flow from the organic life, of which the so-called sympathetic system of nerves is the ministering nervous machinery. And here let it be noted that recent inquiries go to prove the sympathetic system not to be the separate and quasi-independent nervous system which it has been customary to regard it; so far from being a different system from the cerebro-spinal, it would appear to be actually neither more nor less than the splanchnic distribution or system of the cerebro-spinal. There are not, in fact, two nervous systems, but there is one nervous system with its different distributions.

Again, it is certain that the life of feeling is fundamental to the life of thought; it goes before it in the order of development and lies deeper in the individual nature—is rooted in the organic life and constitutes really the basic unity of the Ego, all whose passions and emotions are determined in character according as their exciting causes help or hinder its self-expansion. The fundamental note of the organic life, as of all life, is attraction and repulsion—to ensue what is profitable, to eschew what is hurtful, to it; and the organs of animal life inspired by it are really its means and instruments to accomplish this end. Their function is to sustain and maintain the organism by procuring food, by securing what is helpful and repelling what is hurtful to it, by embracing what is agreeable and shunning what is disagreeable —in fact, to protect and defend and further life in all ways. In like manner the function of the hemispheres, which are themselves incorporations of the capitalised experience of the life of the race in doing such work of protection and furtherance through the ages, is to assimilate in thoughts and actions what furthers development and to avoid what is adverse to it—to incorporate experience in structure and to use it serviceably; there being superadded in their nature in

the process of evolution, and they therefore superadding in the display of their function, all the social developments which the fundamental instincts and reflex acts have undergone—that is, the æsthetic developments from the mere animal, the rational from the instinctive, basis. What, in fact, it behoves us to apprehend clearly and to hold well in mind is that the cerebral hemispheres represent at bottom an aggregate of complex evolutions of the fundamental reflex acts of self-conservation and self-propagation; that they are the from-age-to-age-evolved instruments through which the most complex organism in the world gets into more and more intimate relations with the intricacies of external nature in the course of developing its fundamental self-conservative and propagative instincts. Their combined and separate actions are as the combined and separate actions of the dual organs of animal life, unified as they and these are by the basic organic life.

It appears, then, that the unity of the intellectual life which, so far as the division of the cerebral hemispheres is concerned, might apparently be almost dual, is based upon the unity of feeling, and this again upon the unity of the organic life. For although there is a symmetry of the organs of animal life on the two sides of the body, there is not a like symmetry of those of organic life throughout the body; most, if not all, of them are, it is true, symmetrically double in the earliest state of its embryonic development, but there is provision made in their subsequent union for the unity of life of the individual. We conclude, then, that it is feeling which gives welding unity to thought and from which power is derived; that the thoroughly combined action of the two hemispheres which was before judged to be necessary to the exercise of strong attention—necessary, that is, to the fullest accomplishment of the *wish* or *desire* to *tend to* an object—derives its principle of unity and motive power from the organic life through the sympathetic system of nerves.

It will help to make the apprehension of this matter more simple and easy if we think of all intellectual action as fundamentally a simple reflex act, or as a combination and series of such acts, the aim of which is to effect a profitable adjustment of the individual to his environment and of his environment to him, and in the end as complex machinery or agency for that purpose driven by the organic life. A want of adjustment on his part is ignorance and impotence, a wrong adjustment is error or delusion and false action; in the former case he does not get the good which he might get, in the latter case he gets positive harm. To make the best

adjustment possible is to secure the fullest intellectual development of his nature as it has been constituted for him by the capitalised or structuralised experiences of his forefathers through unnumbered ages. For it is at bottom the capital invested in structure which makes the endowments and limitations of his faculties. When a creature of the simplest organisation receives an adverse stimulus it notably shrinks or starts away from it instantly; it shows no disposition to endure or to repeat it and to endeavour to get into any relation of adjustment to it—that is to say, it cannot examine and reflect; but when a being of the most complex organisation receives an unwelcome stimulus he does not necessarily shun it instantly, although that may be his first impulse, since he has within him, incorporate in his mental structure, that organisation of experience which enables him to reflect it on to other tracts, or, in other words, to subordinate a present impression to wider considerations of future good; wherefore he endures it and adjusts himself to it, and gets advantage, it may be, from it—that is to say, he examines and reflects and acts in relation to it. In the end he perfects the right reflex acts in relation to it, when he is properly said to understand it; ever afterwards he can think it without performing it actually, performing it ideally in fact, confident what its value will be if proved by the test of actual experience. Knowledge is fit reflex action at higher removes—abstracts, as it were, from the concrete, not in the sense of real abstract existences, but as general signs or notations, each of which stands for or represents all particular ideas of the same class. The idea of an object is, so to speak, the mark and prognostic of the impressions and reactions which that object and all objects of the same class are able to stir in us.

We have now reached the point where appears plainly the full answer to the previously put question—to wit, how comes it to pass that the hemispheres of the brain, when dictating different movements, yet have an understanding in common and work together to a common end. They are organs of *one* body—two like structures moulded on one stem—in the organic life of which their basic unity lies; nowise supereminent and independent organs apart, that govern the body from the platform of a higher life, but organs of the body, living in it and by it and for it; and their functions are not, like those of the limbs, functions of the animal life only or mainly, but functions in which the whole life, animal and organic, is represented. It is from the life of the *whole* body that the constituents of the mental

life are derived, and inasmuch as the cerebral hemispheres are organs ministering to this life, they must necessarily have its fundamental unity. Superpose on this basal unity of being the effects of education of the hemispheres in joint working, begun with the first movements of life and continued throughout it, and we have a sufficient explanation of their communion of function in thoughts, feelings and acts.

III.

I pass on now to a rapid survey of some of the leading phenomena of mental disorder in order to see how they stand in relation to the foregoing conclusions. The two main types of mental disorder, mania and melancholia, notably present very different and almost opposite features: in the former there is great exaltation of self with answering lively display thereof in thought, feeling and conduct—phenomena witnessing to a generally brisk and easy reflex action; in the latter, great depression of self with answering sluggish expression of thought, feeling and conduct—phenomena witnessing to dull, slow and inert reflex function. The organic functions, moreover, share in the exaltation of the one state, in the depression of the other; if they do not actually do their work much better or much worse as the case may be, their tone is sensibly different, they doing in the one with ease and sense of satisfaction what they do in the other with labour and sense of oppression only. The contrast is most striking when the alternating phases of excitement and depression occur in immediate succession in the same person, as they do in the form of alternating mental disorder which is known as *circular* or *alternating* insanity. Now if it be true that the source of the exalted or depressed selfhood is in the organic functions, and true that the organic life supplies a basal unity to the action of the cerebral hemispheres, there ought certainly to be more evidence of their unity of action in the maniacal than in the melancholic type of disorder. What are the facts? Consider the typical features of the two states: on the one hand, exaggerated self-confidence and exultant feeling of well-being, quick and acute perception, extraordinary memory, overflowing rush of ideas, multitudinous projects, extreme susceptibility, voluble talk, unresting activity, an absence of all sense of effort, boastful self-assertion, delusions of greatness and power; on the other hand, loss of self-confidence and great self-distrust, no relish for or interest in or hold on the affairs of life, incapacity of

attention, sluggish and inefficient memory, deadness of feeling and dulness of thought, inability or aversion to will and act, sense of infinite effort in order to make the least exertion, despairing self-depreciation, delusions of ruin or damnation, or of possession or persecution by devil or other malignant power. The maniac never feels the least doubt that he is himself, when actually he is not himself but alienated from his true self; the melancholic feels and laments that he is not himself, that he and things around him are changed and unreal, that he is another self or in subjection to another self, when his main affliction is a loss of faith in self. The question is then whether it is right to look on this deep sense of the want of unity of being, this mental inability to realise self and its correlative loss of hold on the not-self, as being due to the failure of the organic driving force. That is the present contention: there is in fact the weakness resulting from the incomplete union or actual disunion, a self divided against itself by a commencing or completed disruption, and there are in consequence the dual and confusing suggestions of self coming from the weak and almost independent action of the disunited halves.

In taking account of the strange and gloomy ideas which arise in the mind under those conditions of disorder, it is important to remember that we have to do, not with the negative effects of lessened or lost function only, but also with the positive effects of the disordered function which is not lessened or lost. The supreme centres of the brain are constantly receiving impressions from without and from within the body; these impressions they under conditions of disorder work into all sorts of anomalous forms, just as they do in dreams; and so it comes to pass that when ordinary stimuli affect the individual, he, not realising their true nature because of his perverted sensibility, deems the stimuli themselves extraordinary and fashions them into monstrous shapes. If the hemispheres are not acting in unison, but differently and discordantly, it is manifest that there will be a confused and incongruous mixture of these disordered creations.

The phenomena of dreaming may be cited in further illustration and confirmation of the position here taken up. During sleep the organic life does not cease, like the animal life, but goes on at a lower rate of activity; the consequence being that the hemispheres, lacking the force necessary to full unity of action and yet taking up the organic impressions from the body, as well as any chance-impressions from

without, manufacture from them the most incongruous dream-images and events. Moreover, they are probably under this further prejudice, that they are deprived to some extent of the unifying effects of education, since the senses are closed and movements in abeyance: for education means education in strict relations to external objects; and although it is certainly possible to think without presentation of object to sense, yet there is no doubt that the habitual relations of sense to the external world, which exist when we are awake and hardly or not at all aware of them, do exert and quietly keep up a unifying and steadying effect upon the actions of the cerebral hemispheres. Deprived of this tacit control and weakened in their basal organic union, they deal riotously with the stimuli, seldom wanting, which make dreamless sleep a rare event; for the main conditions of such sleep are: first, a gentle and quiet action of the processes of the whole digestive tract and of all other functions of the organic life, so that no undue stimuli therefrom disturb the repose of the brain; secondly, an absence of all disturbing external impressions which, albeit not strong enough to produce wakening, are yet sufficient to affect the not entirely insensible sleeper and to be woven into the ravelled texture of his dreams; thirdly, a quiet brain—a brain, that is to say, which has not been made irritable and susceptible by excitement or exhaustion before going to sleep.

Reflect how painfully incompetent to perform a complicated act of contrivance and skill, even though it be a tolerably familiar act, or to give firm and consecutive attention to a subject of thought, a person is who has been rendered 'nervous,' whether it be by some moral or physical shock, or by some temporary bodily disorder, or by some other cause of nervous exhaustion and agitation, and how immediate may be the restoration of self-confidence and power from the taking of a glass of wine or other like stimulant of the organic energies. The acquired nervous incompetence of one who is temporarily incapacitated from doing well, or doing at all, what he can commonly do with skill and ease is very like the natural nervous incapacity of one who is learning anxiously by practice to do an act of the kind; in both cases there is apparently an ineffective co-operation of the hemispheres, due probably in the former to a loss of driving force, in the latter to an incompleted education.

Very remarkable is the cold collapse of self, the extreme prostration of body and mind, the almost entire extinction

of energy which a serious wound of the abdominal viscera occasions at once; the degree of instant collapse which takes place being out of all proportion to the immediate danger of the injury, fatal as this may prove in a few days by its disorganising consequences. Of a like kind, although less in degree, is the overwhelming prostration which commonly goes along with sea-sickness; a malady of so little serious moment in itself for the most part as to render the contrast of the accompanying abject moral prostration all the more remarkable and even ludicrous. When the deep foundations of self are shattered, as they seemingly are by sudden disorganisation of the sympathetic nervous system, the sufferer goes practically to pieces; as well he may, indeed, if these foundations are laid in the organic life.

It will be understood that the organic life includes not only those functions which serve self-conservation, but those also which serve reproduction, so long as they are active. Without them the self would be quite a different self, since they are necessary constituent elements of it. Now it is an observation which experienced physicians have occasion to make, that the premature loss of sexual power is apt to produce the utmost mental depression and may be a cause of suicide, and that a deep melancholic disorder sometimes follows its natural extinction. It is not simply that the person is bereft of a gratification which he would gladly have and is miserable in consequence, but he is reduced to a lower level of life so far as love of it and pleasure in it are concerned; not so much any measurable gap in his conscious life, an explicit sorrow of which he can give an account, but a deeper and more intimate loss, whereby everything seems to him stale, flat and unprofitable, and instead of having gladness in feeling and doing, it is pain and weariness to him to feel and do. Things and events he apprehends as clearly as ever he did, and judges rightly concerning them, but they pass before him in dream-like distance, as if they were a mechanical show which stirs not his interest nor touches his feeling; he has lost much of that affective intonation of his nature whence come desire and relish of them. All this seems the evident effect of the lowering of the force of organic life by the abstraction of the reproductive function from it: so much special vital energy has by the extinction of its source been subtracted from the stream of organic energy supplied to the brain, whose functions in consequence lack interest and are performed with greater effort. It is not for the most part our brains that wear out in old age; they would go on for a longer period were they properly fed

with energy from below, but it is the organic viscera which decay and fail in function; it is their failure which makes desire wane and the grasshopper a burden; they are the source of life's energy and relish, and their integrity and vigour the secret of an eager and active old age.

Having pointed out thus far how exaltation and abasement of the Ego or self answer respectively to *excess* and *defect* of the fund of organic energy in the brain, I go on now to note briefly that great *perversion* of this energy is followed by complete disintegration of the Ego or self. For this purpose I may fitly call in evidence certain cases of the deepest and most distracting nervous distress in which, without any known structural disease, a strange, disquieting, indescribable sensation is felt suddenly at the epigastrium or in its neighbourhood, diffuses itself vaguely through the body or mounts towards the head, and occasions instantly a distracting and overwhelming apprehension of impending dissolution of self: not a definite apprehension of death, nothing which can be grasped definitely in thought and feeling, but a vague, vast, indescribable feeling of impending horror, an unspeakable anguish. The impetuous and overpowering feeling is accompanied, perhaps, by the sense of a vehement rush of something, not blood, to the head, and may issue in scarcely resistible or actually irresistible impulse to an act of desperation, suicidal or homicidal, which is then, so to speak, the psychomotor convulsive outcome of it: in itself it is probably the pathological parallel on the sensory side of what convulsion is on the motor side. The sufferer who, after the attack is over, quietly recognises that his fears were groundless, and during it even remembers that he has had similar seizures before, cannot at the time of agony hold his intellectual ground at all; his power of thinking is abolished, his intellectual and moral unity dissolved, in face of the rushing mighty sensation of deranged organic unity.

In order to facilitate conception of the discordant action of the hemispheres and of its probable effects in thought, feeling and conduct, let us consider a person's movements when from deranged action of the dual organs of animal life there is no longer that unity of function which belongs to them in a state of health, and thereupon endeavour to imagine what the effect would be of a similar unity-destroying action upon the mental functions. Suppose a person to be afflicted with similar spasmodic or convulsive movements of the limbs of both sides, but not of such intensity as to incapacitate him from walking of a stumbling, rickety sort; imagine next his motions to be, like his thoughts, self-

conscious; what would be the revelation of themselves that they would make? Most likely an exultation and pride in their new activity, of the convulsive nature of which, being equally and similarly affected, they would be unaware. Let the supposition be of such a convulsive action of the limbs of one side only; what would be the revelation then? Of a self bound to another self which was hindering and opposing it—of a self divided against itself, a distracted or double self. Both in movements and in mental functions the full unity of function is the unity of a double organisation; wherefore, if there be duality, instead of unity, of the latter, we cannot fail to have phenomena marking the disintegration of self, cannot have phenomena that consist only with its integrity.

He who would pursue this inquiry into all its important consequences ought to go on to examine and reflect how such duality, instead of singleness, of function would affect particularly each of the different faculties or functions of mind—for example, memory, perception, judgment and will. Not memory, perception, judgment and will as *general* faculties or functions, be it understood, since in that sense they exist not, being no more than general representative signs or terms, but the *particular* memory, perception, judgment and will which is the living mental act. The memory, perception or judgment of one subject or of one part of the brain may be utterly wrong, while the memory, perception or judgment of another part of it is perfectly right; so that to speak of loss of memory and the like in general, without specifying the exact nature of the loss, is no more instructive than it would be to speak of loss of movement without specifying the particular loss and its exact nature.

As regards perception, it is obvious that a person whose hemispheres were at variance because of disorder of one of them must perceive a real object with the one hemisphere and an unreal object with the other, and perceive them both as equally real when equally vivid; his life, therefore, must needs be a succession of incoherent relations to the external world according as the one or the other was in the ascendant; at one time he would attend to and act in relation to his wrong perception, at another time he would attend to and act in relation to the true perception. In like manner his memory will be a memory of two selves, and oftentimes of two incompatible selves: he will speak quite correctly of actual events and his doings in them, so that there seems no fault in him, but immediately afterwards must speak with equal certitude of unreal events and

his supposed doings in them, so that there will seem no health in him. Judgment and will must necessarily be equally lamed and deranged, since the same division runs through them, and they must display the same sort of incoherent function. The individual will not only think double and perhaps act double, but the ideas of his double thinking and doing will be inconsistent and incompatible—he will be literally *distracted*.

Such are the effects which might theoretically be looked for from a dual and discordant action of the hemispheres. A survey of the phenomena of mental derangement discloses many facts that might be adduced in support of the theory. Take for first illustration the mode of coming-on and going-off of the attack in some cases of insanity: there is notable a brief period at the outset when the sound hemisphere appears to hold the lead and to repress or ignore the suggestions of the unsound hemisphere, whereas after a time of struggle and uncertainty the unsound hemisphere may be thought to gain the entire lead and to draw the other with it in such servitude that it does not rebel nor even suggest a doubt; and in like manner when the disease is passing off there are intruding intimations of doubt of the unsound thought which, little regarded at first, return in greater force by degrees and eventually grow to certainties that overcome and suppress its delusions. More striking still is the example of the person who is possessed by alternate voices, the one profane and blasphemous, the other reverent and devout; or of one who is to all intents and purposes two selves at the same time, his real self having his natural feelings and seeing things in their true light, and his morbid self with unnatural feelings and perverted notions, the two engaged perpetually in an inconclusive conflict which drives him to the deepest despair and perhaps even to suicide; or of one who, having extravagantly insane delusions on some subject concerning which he talks such absurd and incoherent nonsense as would seem incompatible with the persistence of any sense in the conduct of life, nevertheless exhibits such sound reason and good judgment on all other subjects as render it marvellous that he cannot correct his false bearings and put himself right with the world. Do not such facts as these suit well with the theory of a dual and inconsistent action of the hemispheres?[1]

[1] Many more illustrations of the same sort might be given; they are numerous enough, whatever their right interpretation. "Je me sens couché avec un *autre* moi-même," said a French patient, "qui me parle sans être interrogé et répond à mes pensées sans me laisser le temps de

It was previously mentioned incidentally that in some cases of double vision we learn to trust one eye and to disregard the deliverances of the other; and it is notable that it is easier to do that when the two visual images are wide apart than when they are close together or overlap. So in some sort is it with the double thought of mental disorder. In large asylums for the insane there are commonly two or three patients who, believing themselves to be royal or other great personages, accept quietly from day to day positions of service and do submissively mean work quite inconsistent with the claims they ought logically to make and maintain; their delusions are so far apart from the relations of their ordinary lives that for the most part they are disregarded, now and then only intruding actively and disturbing their conduct. But let a person be possessed with the delusion of his wife's infidelity, or believe that his neighbours or persons of his own household are saying insulting things to him or putting poison into his food, and he cannot so far disregard his delusions as to go on quietly at home, although he may so far distrust them as to conceal and even to deny them when challenged by strangers; they lie too near, or overlap, as it were, the thoughts and feelings of his daily life.

There are many more facts which deserve and might well repay examination in the light of the theory of a discordant action of the hemispheres, but it must suffice now to indicate in the briefest way two or three of them. One inquiry might be whether the theory is fitted to throw any light on the mental states of those more or less peculiar persons who, springing from families in which there is a decided insane strain, without being actually insane themselves, exhibit such anomalies of thought, feeling and conduct as to be known as odd, queer, eccentric. The best of them may possess remarkable abilities of a special kind, signalising themselves, perhaps, by a singular skill in punning or by wit of a higher order, or excelling in some particular line of art, musical, artistic or poetical; the worst of them exhibit undoubted marks of physical and mental degeneracy. One of the physical peculiarities noted sometimes in the most degenerate examples is a signal want of symmetry between the two sides of the face, or of the two sides of the skull, or of the two ears; and if it be true that, as Swedenborg used

les exprimer." A gentleman after five sleepless nights suffered from a form of fatigue in which "the brain seemed divided into two parts, thinking independently, and one side putting questions which the other answered".

to put it, whatever is displayed in the outermost is contained in the innermost, that would mean a corresponding want of symmetry between the two sides of the brain, with corresponding degrees of unsymmetric thought and feeling. May we thereupon suppose that some of the strange quips and cranks of thought and feeling displayed by the better-endowed possessors of an insane temperament betoken a disposition to separate and independent action of the hemispheres, a sort of nonconformity of functions?[1] It is interesting to take note in this connexion that it is precisely in those cases of insanity which own a strong hereditary predisposition that the most extravagant delusions on one class of subjects and the sanest reason on other subjects are found to exist side by side.

Another class of facts demanding curious attention comprises the remarkable disturbances of consciousness which occur in connexion with epilepsy. One well-known variety of the so-called 'aura' or warning which often goes before the epileptic fit is of an intellectual nature; not a simple sensation, nor a hallucination of one or other of the special senses, but what is called a thought or reminiscence, or a certain dreamy vagueness of thought which the sufferer feels it difficult or impossible to describe.[2] It occurs to him suddenly as something different from what he was thinking of at the time, an abrupt incursion of alien thought and feeling, or a seeming reminiscence of a scene or dream, producing the impression of two selves; it obscures or abolishes consciousness of other things, and is followed quickly by entire unconsciousness. Now, just as the convulsive movements of the epileptic fit may begin on one side and in particular muscles of that side, so may the intruding strange thought which goes before the fit originate probably in one

[1] In the Goulstonian lectures on *Body and Mind* before the Royal College of Physicians (1870), I pointed out that an inveterate inclination to punning was frequently an accompaniment of what I described as "the insane temperament" or, as it is now sometimes called, the neuropsychopathic diathesis. That was stated merely as a fact of observation, without any attempt at explanation. Does the explanation then lie in a certain separateness of action of the hemispheres, the proneness to which is constitutional, whereby the one hemisphere takes in the sense of what is said while the other is on the watch for the fit assonance and alliteration? It is curious to note that excessive punning is sometimes displayed in the stage of exaltation that goes before the actual incoherence of acute mania, when the highest powers of control are abolished, and I have known it to be developed after a severe shock to the brain which had damaged the memory and will and impaired the moral and higher social feelings.

[2] "On a Particular Variety of Epilepsy (Intellectual Aura)," by J. Hughlings-Jackson, M.D. (*Brain*, July, 1888).

hemisphere of the brain and in the local functional discharge of a particular part of it, and the singular feeling of a double self accompanying its intrusion perhaps be the result of the dissentient action of the hemispheres.

The last fact to which I shall refer is the singular feeling, which almost everybody has had more than once in his life, of having been before in exactly the same circumstances and having had exactly the same experience, notwithstanding that the experience was plainly and entirely novel. The feeling is not, I think, merely a flash of recognition, but is instinct with a sort of sure foresight or prophetic certainty of what is going to happen; not a memory certainly, since we cannot remember what has never happened; and it is at best a momentary consciousness which vanishes almost as soon as it is felt. Its nature and mode of occurrence seem to prove that it is an almost instantaneous, but not exactly consentaneous, double experience of the same event; and it is not an unreasonable conjecture, therefore, that the seeming recognition may be due to the instantaneously successive consciousnesses of the separately acting hemispheres. In this instance the hemispheres have exactly the same experience, whence the seeming familiarity; but in the perhaps not essentially different mental disturbance which precedes the epileptic fit they act differently, whence the strange feeling of alien thought and of a double self. And it is interesting to take notice in reference to this explanation that there is some reason to suppose that the persons who are likely to become epileptic in the end are exactly those who most often have the strange feeling of a previous identical experience.[1]

[1] Dr. Hughlings-Jackson says, in the paper just referred to, that he should never diagnose epilepsy from the paroxysmal recurrence of "reminiscence" without other symptoms, although he should suspect epilepsy, if the recurrence were frequent.

II.—ON SOME KINDS OF NECESSARY TRUTH. (II.)[1]

By Leslie Stephen.

I endeavoured in my preceding paper to trace the process by which we are led to form the conception of Time as something independent and definitely measurable. I proceed to speak of the analogous question of Space. In speaking of this—the most difficult problem—I must begin by saying distinctly what are the limits within which I must confine myself. I know, I am sorry to say, very little indeed of the recent investigations into the mode by which we learn to organise the various intimations of space-properties. When I read Prof. James's articles, I accept them as an ignoramus listening to the statements of an expert. I have no independent opinion whatever in the matter. I should, therefore, be silent were it not that I fancy that there is a logical question as to the meaning of our judgments of space, which is independent of a detailed knowledge of the complex system of sense-signals by which our judgment is formed. I am very likely quite mistaken; but one erroneous speculation more or less in this matter is hardly worth counting; and I shall simply give my view—without stopping at every instant to insert professions of incompetence—as though I were dogmatically certain.

A space-judgment is so far like a time-judgment that it is a statement of a relation between two phenomena. We have to find a common measure—a value of one space-relation in terms of others. Ultimately we say this distance is equal to, or in a certain numerical proportion to, another. And, as in time, we have to take some perfectly arbitrary unit. We know a minute only as the sixtieth part of an hour; and we fix the hour by its relation to a particular day—the 1st of January, 1887, for example. In the same way, a foot is a certain fraction of a mile, or a mile a certain multiple of a foot. The ultimate unit is arbitrary, the length of Edward I.'s arm, or a standard piece of metal at the Tower, or the length of the earth's diameter. Therefore, the statement that a thing is of certain length is a statement that it bears a certain numerical relation to some other thing; that it would precisely coincide with it if they

[1] Concluded from No. 53.

were placed together, or exceed, or fall short of it. We have the advantage that we can actually bring things together which we cannot in time; but, on the other hand, a whole system of complex propositions results from the attempt to give general rules as to their coincidence or otherwise.

First of all, then, can we say anything more about this coincidence? When do we call a distance 'constant,' or say that two separate things would coincide? It is clear that we only know of space-qualities through various sensations—smells, sounds, sights, touches, and so forth. The identity, therefore, of two objects in point of space must mean that under the same circumstances they would cause the same sensations. Here, again, we adopt certain familiar artifices. We clearly regard smells and sounds, and in a less obvious way sights, as indications of something else. They are signals of something; they do not enter into our ultimate judgments. I hear a sound and infer a bell, that is, a visible, tangible, resisting something. But my inference is not verified. I can see nothing and touch nothing corresponding to bell. Then I reject my previous inference. I correct it by interpreting the sound as meaning a bell in a different position, or, in the last resort, I set it down as an illusion. The sound must have been a singing in my ears, or such a fancy as Clapperton's when he was dying in Africa. By such an understanding it is easy to make things pleasant. We reject inconsistent experience *because* inconsistent, as we did in the case of time. Therefore, a sound is not an ultimate authority, but only gives *primâ facie* testimony. And the same is true of sight. I see a man, and my hand goes through him. Therefore, he is a ghost, not a man —or unreal. I see a surface in relief. My touch tells me that it is flat. Therefore, my eye kindly conforms to my fingers, or, if it will not, I disbelieve its testimony. It follows, it would seem, that a judgment as to distance is not a judgment about sounds or sights in the last resort. They indicate something else; they do not prove. This must be so, because I make it so, by instantly rejecting their testimony when it does not correspond to other testimony. The process is analogous to that already considered in regard to time, and corresponds, I presume, to one of the instinctive processes which physiologists can trace and analyse. At any rate, I have so managed matters that only one conclusion is possible. I have decided to reject all inconsistent testimony as inconsistent.

What, then, is the final authority to which all others

have to conform? When I say that a thing is at a certain distance I mean that it is or is not 'within reach'; and this means that a certain touch will be reproduced by a certain extension, or, of course, a certain system of touches by a corresponding system of movements. I use the word 'extension' in the vaguest possible sense, meaning that sensation, whatever it may be, which corresponds to reaching a given object. In order to make the statement accurate, we have, of course, as in the case of time, to substitute an objective and constant standard for the variable standard assumed in the first instance. But the question is, In respect of what is it taken to be constant? If I say that a thing is at a fixed distance, I do not assume a constant affection of the hearing or sight as given by that simple statement; I regard those sensations as signals of something else, and therefore their testimony as liable to be overridden by other testimony. I always assume, however, that the extension necessary to reach the object remains constant; that is, the extension due to the action of the normal or standard human being. Whatever errors may be made are corrected by reference not to some other criterion but by a due admission of the possibility of personal variation. If I am more tired at one moment than at another, the effort required to make a given extension will be greater. This correction is enforced upon me in the attempt to construct an objective world, and in applying it we act precisely as we do in other cases. We may assume the amount of effort to be measurable by some common and fixed standard. Supposing this to be done, by saying that a thing is at fixed distance, we necessarily imply that it can be reached by a fixed effort. The precise effort which we have to make at a given moment is of course variable; but the distance is made constant by the hypothesis that the change of effort is due to such a change, and to such a change alone; or, in other words, the real distance remains the same if this effort measured by the objective standard remains fixed. And, inversely, if more or less effort is required, we necessarily suppose the distance to be increased or diminished. The space-judgment, then, must at least include, and appears essentially to consist in, this judgment. Here, in short, is the independent variable to which a reference is explicitly or implicitly made in every judgment of distance. I, or rather the normal man, could not reach an object at that distance by a given effort.

This, as I understand, corresponds to the assertion that our judgment of space is formed from the 'muscular

sensations'. Now this seems to imply a difficulty. The supposed unit in which our judgment has ultimately to express itself is so vague that it seems incapable of giving rise to any accurate judgments, especially to the most precise of all possible judgments. It may—it seems that it must—be somehow latent in the judgment; but it is not the actual judgment. Nothing, certainly, can be vaguer than the muscular sensation itself. If we take such a familiar example as the skilled billiard player, we have an obvious illustration of the case. A stroke has to be delivered in a certain direction with a certain force at a certain part of one ball so that it may move with a certain velocity, strike another ball with a certain momentum, and set up a certain set of subsequent movements. It would tax the ablest mathematician to determine the exact position in which the cue is to be placed and the force of the blow to be struck. Again, the original data, the positions of the cue, ball and so forth, have to be determined from certain visual and other sensations, which involve complex problems of perspective, and therefore of geometry. If a specified and highly discriminated sensation corresponded to each position of the arm so that the right one could be picked out by the performer, we could partly understand the marvellous accuracy of his performance. But in point of fact this sensation seems to be of the very vaguest kind. All that takes place, so far as we can observe, is that he foresees what is going to happen, and that, therefore, it does happen. The sensations somehow solve all these amazingly intricate problems for themselves. And what is done by a billiard-player or a fiddler is only a further refinement of what everyone of us does in learning to walk or to talk, and what a swallow does when it catches an insect on the wing, or a tern when it plunges into the sea to seize a sand-eel. How the organism acquires these indefinitely delicate adjustments is a problem for the physiologist, at which I can only glance and pass by. My only purpose is to emphasise the singular vagueness of the muscular sensation which seems to be implied in the corresponding movements. If my hand and arm do so exactly what I want them to do, there must, one supposes, be some difference of sensation implied in the minutest change of position. Yet if there be one it is so slight as to be quite inappreciable in the developed consciousness, and we do not see how it can be discriminated from its proximate neighbour. I pick out, it seems, one pin from a million all indistinguishable in appearance, and I do it with unfailing accuracy. I do not

recognise the sensation by itself, but only as that which corresponds to some visual or tactual or audible sensation.

This, I observe, may equally be said of the vague feeling of duration. Accurate judgments of time enter into our actions as much as accurate judgments of space. When a man shoots a bird flying, he must implicitly estimate with extraordinary nicety the distance which it moves in a given period. If he shuts his eyes and tries to measure a period by his time-sensation, he will probably find himself hopelessly at a loss. If he looks at the bird flying, he will cause another body to move rapidly so as to intersect the line of flight at a given distance. The accuracy of judgment, therefore, does not depend upon his accurate perception of time considered abstractedly, but upon his accurate interpretation of certain visual symbols.

Now, I think that it is precisely this extreme vagueness which enables us to form necessary judgments, although we must look elsewhere to understand their extreme nicety. But, in order to show this more clearly, we must go a little further into the nature of the judgments which we actually form—whatever the complexity of the system of sensible signals by which we are enabled to form them. To take the simplest example, we may suppose that we see a marble, a hard, spherical object, revealed in the first instance perhaps by sight. We determine the position in space, the shape and size by putting out our hand and grasping it, rejecting all indications from the eye which are incompatible with the sensations given by the muscular action. If the marble moves, a different effort is required to reach any point of the surface, but the same sensations which determine the shape and size recur. The arm is extended further or not so far, and revives the same series of grasps and touches. Suppose, again, that the marble is made of putty, and that therefore whilst it is at the same distance it changes shape upon pressure. How do we interpret such a simple series of sensations? The hard, incompressible marble is taken to be the same thing, because it corresponds to the same system of touches and pressures. But they are revivable by different extensions. The marble therefore is at a different distance. When we press the putty again, it corresponds to a different series of touches. We explain this by saying that the thing has changed its shape. Now, I say, these inferences or modes of interpretation, virtually construct space as we before constructed time by help of an assumption that all the sensations shall be made consistent. For the same thing (that is, the same

in shape-relations) is defined to be that which produces the same series of sensations. If the same series of touches recurs after a different extension, we explain this either by supposing a second thing differing from the first in distance alone, or by supposing the thing to have moved to a different distance. In the latter case we suppose a change in the space-relations of the whole, though the relations between the various parts of the thing remain constant. We suppose that the thing has moved, and therefore that it might be replaced so as again to produce precisely the old sensations if the change were reversed; and further, that it actually does or might produce the same sensations upon another being, or upon ourselves after a supposed change in our own relations. And if, after all, this should not be verified, we suppose the thing itself to have changed. These hypotheses will enable us to reconcile any conceivable changes in our sensations, and since we have started from the assumption that the changes are to be reconciled, we naturally reach the result already predetermined in our assumption.

To work out the precise process by which the reconciliation is effected would be no doubt very difficult, and is in any case quite beyond my capacity. But it is easy enough to assign a hypothetical process by which some of the conclusions actually attained might be suggested, and which will perhaps show more clearly what I conceive them to be. We may, in the first place, imagine a being absolutely fixed, or, what is the same thing, accounting for everything by its varying distances from himself. So far as purely geometrical considerations are concerned, such a hypothesis is always possible at any stage of thought. Physical observations force us to make the hypothesis that we change our place as well as objects around us. But, from a purely geometrical point of view, all experience may be made coherent by assuming ourselves or any point in the universe to be absolutely fixed; or, in other words, by measuring all distances from any assumed origin. We may imagine, then, a fixed being (or a being who chooses to measure from himself as the origin) to recognise the world within his reach. Each object will then be definable as that which produces a certain sensation of touch when he makes a certain movement corresponding to some fixed muscular sensation. By renewing the same effort he reproduces the same series of sensations. He thus acquires a certain definite framework of regularly recurrent sensations. In fact we form such a framework, consisting of our habitual environment, room,

house, country, and ultimately solar system, to which we refer in order to obtain our bearings. But, as many things move, there are some sensations which do not recur. When I moved my hand along the table I met an obstacle—a matchbox—at a given distance. I and the table are still where they were. I revive, that is, precisely the same series of sensible impressions of the table. But the matchbox has moved. To revive that series of impressions I must make a greater extension. How do I explain the change? I assume none in myself. Nor do I say, as I apparently might, that there is now more 'space' than there was. I do not assume that the matchbox is a constant limit to space, which would make the movement along the table variable in spite of the identity of that series of impressions; but I suppose that the matchbox has moved, and that, instead of limiting, it only filled space. I assume, to make my impressions agree, that there was always a potential space, which the matchbox did not annihilate, but rendered inaccessible for the moment. The assumption leaves a certain difficulty, it would seem, for we are always unable to imagine the interior of solid bodies, and have to conceive them as made up of a series of surfaces or of potential systems of resistance indicated by potential touches. Thus, when we suppose a body to move we do not suppose space to be altered; but we imagine that the space was always there potentially. We act like the judicious lender of a book, who fills up the space which it previously occupied on the shelves by a wooden block. This artifice, then, is forced upon us by our resolution to preserve the harmony of our sensations. It enables us and compels us to preserve the original framework of sensation entirely unaltered. It is not read off simply as a set of permanent sensations, always to be evoked by a repetition of precisely the same effort, nor as a simply variable set of sensations, sometimes arising and sometimes not arising in correspondence with a given series of efforts, but as a set of permanent and absolutely unaltered and unalterable series of potential efforts. And the different sensations which occur are regarded as due to a change in something independent of ourselves, and as always capable of being referred to their proper place in the original framework. Any inconsistency now becomes impossible, because we take for granted that the observed differences are not to be referred to a change in the effort itself, but to a change arising elsewhere, and registered as different because occurring in different parts of the same framework. We need not, so far as the sensations themselves are concerned, have

recourse to this system; but until we have recourse to it the sensations must remain chaotic, grouped by no assignable rules, and therefore we have recourse to it.

A further step now becomes necessary. It would be so far possible to interpret my sensations consistently, whilst admitting qualitative differences between different regions of space. A set of sensations different in some respects must occur when I move my hand upwards or downwards, right or left, and so forth. Suppose, for example, that one hand touches a given point on a table, whilst the other rises to the lamp above it and then descends to the original place. The effort of raising the hand will be different from the effort in lowering it. So long as I simply regard the corresponding sensations as a series of consecutive events, there is in this no contradiction or difficulty. I might simply recognise the two series as different, and believe vaguely that the same would recur under the same circumstances. But, in point of fact, I make a more complex hypothesis. The two points, the lamp and the table, represent fixed data in my framework of actual and potential sensations. In order to carry out this hypothesis, I assume that if the points are fixed the distance is fixed. When I find that the actual effort implied in moving from one to the other is different, I am not content to take the observation simply. I virtually split up the sensation into two, and regard it as due partly to a uniform sensation, which corresponds to space in itself, and partly to a variable set of sensations due to some other cause, as in this case to weight. We suppose it to be a necessary truth that the distance from the tip of the tiger's nose to the tip of his tail is the same as the distance from the tip of his tail to the tip of his nose. The showman who declares that there is a difference makes a bull—a palpable contradiction in terms. If his assertion merely referred to the effort involved in passing our hand first one way and then another, it would not be contradictory, though it might be inaccurate. Why, then, is it absurd? Because, by the length we mean the effort due to the distance which is assumed to be constant—for we don't suppose the tiger to grow, and the two movements might be simultaneous. We have made an assumption precisely the same as that which we make in the case of touch. We discard differences because they are different; that is, we set them down to some other cause. We have to make such an assumption whenever we pronounce that a thing which has changed its position is nevertheless the same thing. This marble, for example, has moved; it

corresponds to a different set of sensations both of sight and touch, and a different set of potential movements of grasp and touch. We might explain this in various ways. Some of the sensations suggest identity, whilst others suggest change. We might be content to say, 'Here is a differing set of sensations'. When we say, 'This is the very same thing,' we virtually say, 'Here is one set of identical sensations *plus* another set of differing sensations'. We reconcile the varying suggestions by supposing a uniform sensation due to one cause, and varying sensations as due to another. The movement through a certain quantity of space corresponds to a uniform sensation, and so far as the sensations vary they must be due to something else. We must do something of the kind in order to preserve the uniformity of our framework. If I say, This is the same room or the same valley in which I was placed yesterday, it is not that the sensations remain identical. The effort required to put out my hand to the table or to move across the room varies constantly with the state of my body. I might suppose the house to grow larger with as much consistency as I might suppose my sensations to vary. But it is more convenient to regard it as the same house; and in order that I may do so, I must consider that a certain normal or standard sensation would correspond to crossing the room, and that the difference is to be written off as due to something else—fatigue, for example. All this comes simply to defining space as that which does or would correspond to the normal and uniform effort. And, as in the analogous case of time, this involves a postulate which cannot be proved by direct experience. I say, indeed, that I can do in regard of space-measures what I cannot do in regard of time. I can bring two objects into actual contact, and therefore assure myself that they have certain definite relations in respect of length. But, in order to do so, I have always to assume that one or other of them is constant in respect of space. We take for granted that certain objects which correspond to a varying group of sensations are yet the same objects. Probably my first measure is a bit of myself. We are our own compasses as we are our own clocks. My foot is at first the measure of everything, and afterwards a particular thing, a rod or the diameter of the earth, which I take to be constant. Ultimately I find, as in the case of time, that no definable thing is absolutely constant in length. And whenever I measure one thing by another, I must assume that the changing group of sensations is the indication of an underlying uniformity with superficial variations. When I put my rod

in successive positions along the base of the pyramid to determine its length, I am really putting whole series of indefinitely varying sensations together; and it is only because I assume that in some way they also correspond to a series of uniform sensations that my process has any validity. That we are right in supposing that any greater thing is constant in length, as that we are right in supposing a day or a year to be constant in time, is only to be proved from the general harmony of experience thus interpreted.

One other remark must be added, which still corresponds to the remarks made about time. The process involves a separation of 'things' from ourselves, a belief that a thing, as a hypothetical cause of sensations, remains constant, though no longer represented by the same group of sensations. This becomes possible, however the process may be interpreted, whenever we come to form the hypothetical systems of potential sensations which are necessary in order to correlate our successive groups of actual sensations. And this process becomes necessary whenever I recognise the existence of other beings beside myself, and have to form measures common to myself and others as well as to my own successive states. There must be a corresponding development of my space-world. It must be that in which you and I live. It involves the possibility that I may move as well as the things by which I am surrounded. I can place myself at different points of the world I have now constructed as well as suppose a different set of relations of other things to myself. This must clearly correspond to an important stage of development. The difficulty with which it is effected seems to be indicated by the difficulty which still clings to us even in the most advanced stage. I habitually think of myself as moving, for I have learnt to think of the world as being equally measurable from your point of view or mine. But I still find it very difficult to think of the world common to me and the other persons actually known to me as movable. So much of the old mode of thought still survives, in spite of successive abstractions, that I naturally think of my up and down as absolute and universal, find a difficulty in conceiving of the antipodes as real, and habitually take the earth as the centre of all things. It is only when I have applied myself for some time to geometry that I can firmly hold to an abstract space as something absolutely uniform and identical in all its parts.

So far it would seem that the process by which we develop the conception of space is precisely analogous to that by which we develop the conception of time. That is to say,

the conception is forced upon us in the same way by the necessity of correlating our various sensations. All the later steps become necessary as soon as we have made the primary assumption, *viz.*, that we may compare things in respect of time alone or in respect of space alone. That is implicitly to assume that any two periods or distances have a definite numerical relation, and thus virtually to define time or space to be that which is uniform when the varying indications have been discarded. By the help of the various artifices which have been indicated we can always discard every inconsistent indication, because inconsistent; or, in the last resort, determine it to be an illusion. The process is of course facilitated by the fact that there are a great many things of approximately constant length in space as in time, so that our first rough assumptions are frequently justified. We have given concrete constants which do in fact correspond to real constants. And, in the next place, the process is facilitated in space as in time by the extreme vagueness of the supposed uniform element. Thus, for example, I can easily believe that the time which has elapsed during my walk is precisely the same as the time which has elapsed for you, who have been sitting still, because the vague feeling of duration from which alone I can immediately judge is so vague that it easily conforms to any assumption as to a supposed real or objective standard. If the time-feeling itself were very distinct, and thus separately recognisable, it would assert itself as something real, and I should find it comparatively difficult to apply the correction for personal error by which it is forced to conform itself to other indications or assumptions. As it is, there is no difficulty, or very little difficulty, in reconstructing my guess so as to force it into the desired harmony. Possibly it might be truer to say that the sense of duration has become vague because it has been forced to conform itself to my primary assumptions. The same may apparently be said of the sense of extension. The group of sensations which I take to indicate a particular thing—a measuring-rod for example—are in the highest degree distinct, and yet constantly varying for every position of the object. I see a rod, we will suppose, and every separate element of the visual sensation is perfectly distinct, so that I could recognise the slightest change. As the position of the rod changes the whole group of sensations changes, but I still regard the rod as the same. I take for granted, that is, that it would always correspond to precisely the same extension to move my hand, for example, from one end to the other, although the relation of the visual signals is

entirely altered. It is, I say, always easy to suppose this, because the sensation to be imagined is so vague that it easily conforms to any imposed condition, and therefore to the condition of assumed absolute identity. When, for any reason, I suppose the rod to be the same, I can always make it the same by an ideal construction which finds the required materials perfectly plastic, as they have no marked independent quality to give them rigidity.

It seems also to follow that this ultimate assumption may remain for a long time implicit. We have to act in conformity with geometrical principles before we have the slightest power of framing a geometrical axiom. The definite signals of sight determine certain actions without any conscious reference to the construction by which they are ultimately harmonised. This must be apparently the case in regard to those complex combinations which take place before there is any possibility of geometry, or perhaps any genuine space-conception. Simple geometrical figures such as spheres and straight lines and planes imply certain resemblances in the sensible impressions which may be felt before they have been definitely correlated and harmonised. The insect may make a 'bee-line' to a given point as a stone falls in a straight line, not because it recognises a straight line in the full meaning of the word, but simply because it is a symmetrically constructed machine, which moves in a straight line by the action of its wings. The flat may more or less distinguish itself from the rough and the round from the angular in the undeveloped intelligence, which merely perceives some sort of resemblance before it has the slightest power of accepting one of Euclid's definitions. We may at an early stage be in possession of an empirical geometry which corresponds roughly to the fully developed geometry. We do not yet know as a necessary truth that two sides of a triangle are greater than the third. Still we may move in a straight line to a given point before we can reason about lines. It is true as a general rule, though it is not true without exception, that it requires less effort to move along one side of a triangle than along the other two. Before we have any distinct knowledge of what 'sides' and 'triangle' mean, we may have the sensations which ultimately enable us to infer the straightness of particular lines, and may have roughly grouped them together. We may then perceive that the effort required for moving along the one is greater than the effort required for moving along the two. While we had no distinct conceptions of straightness or of lines, the proposition would still be empirical; it would be only true on the

average, because we could not assign the conceptions or make the necessary corrections. We could not distinguish between the effort due to the space and that due to any accidental circumstances. We should be in the same position in respect of space as we are in respect of time when we have only an impression that events synchronise or overlap and have not yet obtained any standard measure. If space was still measured by mere effort, it would appear that a zig-zag line up a hill was shorter than a direct ascent. As we learn properly to classify our varying sensations, the conception of space will gradually emerge and afterwards the whole system of geometrical truths. But the construction must be supposed to supervene upon a rough classification already adopted and gradually becoming distinct and precise as we form the necessary postulates.

So far the processes of forming a space-measure appear to be precisely analogous to the process of forming a time-measure. We have now to consider the further process in which time ceases to present any analogy to space. Time, as we know it, has only one, whereas space has three dimensions. The statement, 'So many years after or before the birth of Christ,' is an exhaustive answer to the question, When? I assume an arbitrary era and an arbitrary period, and, assigning the ratio of the period required to the fixed period, I must also call the past negative if I call the future positive; but in answering + or − 1000 years A.D. I answer the question completely. When you ask where a point is, my answer must be more complex. I must not only say so many miles from Greenwich Observatory, but add so many miles in such a direction; or, according to the ordinary method, so many miles north (or south), so many east (or west), and so many above (or below). It is, of course, owing to this that geometry gives rise to a system of necessary truths, not identical with arithmetical truth generally, but corresponding to certain definite arithmetical functions. As we may define the position of any point in a variety of ways, the various formulæ may be equated, and are 'necessarily' equivalent to each other. We have to consider, then, how we obtain those primary axioms from which all the subordinate theorems are deduced by familiar processes. We have actually unravelled the problem as soon as we have constructed our space-conceptions. The question is what principles were tacitly implied in this construction. To make this evident would be to show how far they were valid or necessary.

Let me, then, endeavour to bring out the logic of the procedure actually adopted. By the logic I mean of course the implicit not the explicit logic—the principles actually embodied in the formation of our intuitions, though not recognised in forming them.

What is the problem before us? We have to compare certain indications of the senses in such a way as to secure consistency. I have stated at sufficient length what are the artifices by which we discard any apparent inconsistencies. In applying them, we have virtually made assumptions implying again certain relations in our modes of measurement, which may also be regarded as limitations upon the possibilities of our method. To exhibit in detail what are these relations and the resulting limitations is to show the 'origin' of our geometrical axioms. We have, in the first place, assumed the absolute homogeneity of space. The origin is absolutely arbitrary; or, in other words, precisely the same relations must be obtainable from any origin whatever. To regard the origin as fixed or to take it as our starting-point is the same thing. We assume also that there is only one space, or that any point in space is equally accessible from any other. We take for granted the unity of the world common to ourselves and our fellow-creatures. And so far we make an assumption identical with that which we make in the case of time.

We may, as I have said, select an arbitrary origin. We lose nothing in the generality of our results by that first assumption. We have next to assume an arbitrary distance as in time we assume an arbitrary period; and, again, we have as in time to regard this as the measure of all other distances. And here occurs our difficulty. Given an era and a period in time, the other point of time is absolutely fixed. Any other time is given by assigning the ratio of the times; the common measure being some unit regarded ultimately as constant because an identical process would occupy it at any time. We are unable, as has been sufficiently said, to compare times 'in themselves,' that is, as compared irrespectively of the concrete events by which they are occupied. In space we have a similar difficulty, but a different solution. Two equal distances can be compared only by the concrete things which occupy them. They are equal if the same thing which occupies one could, without change in its internal space-relations, occupy the other. The fact that any particular thing is thus constant can only be known by experience. The test, however, of equality or its definition is always the possibility of super-

position; which by the foregoing is precisely equivalent to the statement that the same series of sensations, whatever they may be, would be given to me if my position were altered as is actually given to another person at a different position. Thus, again, in space as in time, we judge of the identity of the thing signified from the sign, supposed to remain the same, and not inversely. I do not directly compare the sensation given to me by the stick in one position and another, and therefore infer that it is the same stick; but I assume it for some other reason to be the same stick, and therefore a sign of potentially identical relations.

I return to the remark already made. We have arbitrarily assumed an origin and a distance. But a point (A) which is at a given distance is not thereby a determinate point. For every sensation of touch or sight is a multiple sensation, implying the coexistence of an indefinite number of points, of which, again, an indefinite number are equally within reach, or identical in respect of distance after making the corrections for variation already explained. This, I take it, is the problem set to us by our sensations; that it is so set, must be taken as a fact not capable of further explanation; and the only question is how we deal with it and what is implied in our method of dealing with it. The definition by distance alone does not define A, but defines it as one of a multitude of A's. And here, again, the selection of any one of these A's is absolutely arbitrary. That is to say, the fundamental assumption of homogeneity implies that I may take any one,—when whatever relations I find to the whole system would be identical with those which I should have found by assuming any other; or, again—which is the same thing—that any one of the A's may be superposed upon any of the others, correlative change of course taking place in them. Whether I state the identity in objective or subjective language, as though the point moved or my determination of the point varied, makes no difference. But now we must proceed a step further. What is to be the common measure of distance? How can we apply it to a system of comparable distances, when we are hampered by this indeterminate element?

Here we are dealing with a familiar difficulty. We cannot define lines and angles apart from each other. An angle is only intelligible as a relation between two lines; and a line must always be defined as having a fixed direction. We can distinguish but cannot separate. At present we are not even entitled to speak of the conceptions of lines and angles. We can only assume the facts given to us and the funda-

mental doctrine of the homogeneity of space. We must suppose, that is, that there are an indefinite number of A's, all of which correspond to an identical distance-value, any one of which may be superposed on any other or taken as the base of our comparisons. To select one is again the same thing as to assume an initial direction. Further, if we suppose a second A (say B) to be determined, it must—since it is still to be a point in the one homogeneous space—have a certain definite distance-relation to the first A. Our assumptions again show that the constancy of this relation means the superposability (without the alteration of any of the mutual relations) of A′B′ upon AB. We must start, therefore, with the assumption that we have an indefinite number of coexistent points, all of which are identical in respect of distance-relation from our assumed origin, and each of which again has to any other a certain relation of distance which is determined when the direction of both is determined and the equality of which is to be tested by super-posability.

But now, in order to compare these relations, we must have a common measure. How are we to measure distance? We cannot compare the distance as we compare a separable quality—a smell or a sound, for example—and pronounce distances to be equal because we recognise their intrinsic identity. All that we have been able to say is that various sensible signals may correspond to an identical distance, and that *if* they do so they are superposable. But we can or must make a further assumption. The uniform element which we suppose to exist implies some real permanent identity, which, whatever else may be said of it, has nothing to do with direction. If I take the whole system of A's which correspond to a fixed distance (a sphere, of course), it must be capable of exactly coinciding with an exactly similar system taken from any other origin. This follows from the assumed homogeneity of space. And further, whatever the principle in virtue of which this coincidence would take place or would not take place, it cannot include any reference to direction—that is, to the principle which determines only the selection of one of the whole system of points. We virtually eliminate the element of direction by taking *all* the directions, and the same process, whatever it may be, must apply in the same way to every origin. Hence, the possibility of superposition depends upon some quality or indicates some identical sensation having no relation whatever to direction.

But we now wish to compare different distances. In one sense the distance of any point from an origin is absolutely

indeterminate. Any point is accessible from any other. Therefore, although we must suppose that any point A is at a given distance in the sense that it is superposable without change in the distance-relation upon a fixed point, we might arrive at it through an indefinite number of points. Any series whatever might be part of a series which ultimately leads us to A, and if we suppose each step in the process to be somehow determinate, we should get an indefinite number of determinants of A. But the question now is how is this determination to be effected? How are we to get rid of the arbitrary term introduced by the identity in distance of an indefinite number of points differing in direction?

Here we come, I think, upon another necessary assumption—on a postulate which we must take for granted in order to correlate our impressions, that is, to interpret our sensations consistently. We have already made an arbitrary assumption of an origin, a distance and a direction—the last assumption being equivalent to the arbitrary selection of one of the equidistant points. We are entitled to do this by the fundamental assumption of the homogeneity of space. This is to say again that from any origin whatever we may find a precisely identical system of relations. But the question now occurs how two such systems are to be compared. The distance corresponds to a something supposed to be fixed, though we cannot define it apart from its signs. But what are we to say of the direction, that is, of the principle of selection among the equidistant points? We should get a precisely similar set of relations if we supposed that *any* direction from you were to be the same as a *given* direction from me. All the other directions would then follow; and your whole system is then superposable upon mine in an indefinite variety of ways. (I get this identity, that is, whether I identify your north with my north or with my south or east.) How then am I to compare directions from different points? I can suppose the *distances* to be superposed, and their coincidence gives the test of equality. The two distances are the same as two smells or sounds are the same. But the difficulty here is that I must compare *directions* on the very supposition that they are not to be superposed. Therefore my method of comparison fails; I should annihilate by applying it the very condition under which the statement is to be valid. The difficulty, in short, arises from the familiar fact that we cannot be in two places at once. It manifests itself in our geometry by the familiar perplexity about parallel straight lines, that is, of lines which are constant in direction although different in position.

At the same time we cannot regard the direction from different origins as independent. We cannot do so, because I have to construct space by annexing your world. I have to appropriate your consciousness or, if we choose to say so, my own at a different position; I have to be in two places at once, or, at least, to reason as if I were in both at once. Suppose, in fact, that I regard any two points A and B as determined relatively to me. Then by my assumption of the unity and homogeneity of space I must also suppose A to be at a given distance from B, and either of them to be determinable from the other out of all points at that distance in virtue of some principle of selection. There is some rule, whatever it may be, in virtue of which we take the particular B out of all the points at a distance BA, that is, fix the direction of B relatively to A. Moreover, since this must *ex hypothesi* be the same from whatever origin I contemplate A and B, it must be something independent of any term involving distance. Or, again, if I suppose identical formulæ to be applied from a fixed origin, I shall get the same formula for the direction or principle of selection of a variety of AB's. Hence, though direction in itself remains as incapable of definition as distance, it follows that direction or distance are independent variables and that the direction must be somehow determinable by a formula which includes no reference to position or, in other words, will be the same for every origin. Thus, though we cannot separate a line from its direction any more than we can separate an event from the time in which it happens, and though direction can only be described as something in virtue of which one point out of a multitude is selected and has then some given distance-relation to every other point, we can say that distances must be comparable independently of direction and origin, and that direction must be regarded as somehow corresponding to a determination equally independent of position, although this cannot be reduced to a direct intuition.

So much, I argue, is imposed upon us by the data from which we start, and the necessity of consistent interpretation. We have now to apply this to the problem of a measure of distance. The unit of distance is arbitrarily assumed when we assume any point A. We can, again, speak of any multiple of this unit; and as a distance may be broken up into subordinate distances (since we may proceed from any point to any other), we may regard it as a sum of equal distances or as measurable in terms of one dimension. But we have still the ambiguity arising from the element of direction.

The position of a point is given if we take any point A at a fixed distance and then determine a particular point at that distance by its direction; and again, there are an indefinite number of possible determinants when we suppose that we reach a point through various series of determined points. Thus we must suppose that any point corresponds to a distance affected in some way by a direction and also to a sum of distances each affected in some way by a direction; and we also know that the distances and the directions are such that their measures are absolutely independent of each other and of position. Again, the *relations* between distances must be independent of the arbitrary unit assumed. We may reckon in yards or miles as we may reckon in days or years, and call any given distance 1 or 100 or $\frac{1}{100}$. And, again, it can make no difference whether we suppose the standard of measurement to vary or the distance itself to vary—whether we speak, that is, in objective or subjective terms. No property of space, that is, no relation between the distances, can depend upon the absolute magnitude. We do not think it necessary to say explicitly in Euclid that the properties of a circle or a triangle are the same whether the side or radius be an inch or a mile. The impossibility of any such dependence upon absolute magnitude is already implied in the assumed homogeneity of space. It is therefore implied that we may suppose distance to vary whilst the direction-factor remains unaltered. That is, that the term corresponding to direction applies now to the doubled or halved distance instead of the original distance. If so, it is implied that the determinants of any point A will equally determine a series of points when the distance varies, so that for every fixed value of the distance there will be a fixed corresponding value of each determinant. So much, I mean to argue, follows from the form of the arithmetical function and the independence of the two variables involved. Since we have assumed that neither of them has any relation to position, nor to each other, we are forced to suppose a distance varying independently of direction, and which will give equal measures of distance for equal variations.

If this be sound (and though I may very likely have expressed myself inaccurately, I think that I am aiming at a sound argument), it follows that in selecting any A out of the equidistant A's I have virtually selected a series of which A may be called the index, and which differ from A solely as at a greater or less distance. A being once assumed, a definite variation in distance must give a definite A′ in the same direction, but at twice or half the distance. But this is

the desired measure of distance. The same series must have been reached if we had started from any other point in the series, for a reciprocal variation would have given the same A. Or, again, we may suppose any other point in the series to be taken as the origin. Any part representing a given distance must be capable of absolutely coinciding with any other part representing the same distance. The homogeneity of space, again, implies that any two points may be thus related. If two points are regarded as fixed (or, what is the same thing, taken as the base of measurement), they must therefore be connected by such a series in which any point is fixed (or determined in regard to them) when its distance is given in terms of a standard distance. If, again, any other point is assumed to preserve all its relations to these points, and therefore to all the points absolutely determined through them, all positions consistent with these relations must be 'symmetrical' with respect to this given series; that is, if it can take a series of positions they must be distinguishable from each other only in virtue of a new arbitrary assumption; or taking any one of them, the same series of relations must give all the others, since otherwise space would not be homogeneous. The series represents length without breadth, for there can be only one point for a given distance: it defines a single direction, which is equivalent to the axiom that there cannot be two lines parallel to a given line, that is, in the same direction, through a given point. That is, we have the properties of a straight line.

Now, as a fact, we seem to find the straight line ready made. We assume in our geometrical reasonings that it has the properties in question, and we start, therefore, from them. This is necessary because, as I have said, we are forced to argue from the sign and not from the thing signified. We only compare distances or directions by superposition, real or imaginary, of the signs, and argue that, *if* unaltered, they must represent the same things. This, however, upon my showing, must represent a previous elaboration by which the intuitive perceptions are made to give harmonious results.

I have, in fact, argued that we really organise space by assuming that any and every point is the index of a line; or that there exists between any two points whatever a relation precisely analogous to the time-relation, although this relation does not fully determine either point from the other, as in the case of time, and consequently requires the assignment of the other element—direction. In both time and space we are comparing our sensations by assuming a common

measure; though, in the case of time, we have a sufficient measure by giving the ratio of one period to another, while in space we have to make the hypothesis that any two points can be related by a precisely analogous measure. The rest follows. We have virtually solved the problem when we have so organised our perceptions as to imply this abstraction. But, of course, we do not at first contemplate the problem in this way. We only learn from the actual solution what were the conditions of successful solution. The psychological problem—how our perceptions come to constitute themselves in this scheme—is therefore an independent question which I certainly am not competent to attack, though I will venture a remark or two upon its general nature.

We interpret a certain system of signs, let us say, as representing a set of fixed relations. This stick or this table is a rigid body in space. In order to think of it as rigid, I have to supply a number of potential relations different from those inferable from the actual sensations at a given time. The signals of sight, for example, suggest certain distances from me of different points, and also certain distances of those points from each other; and when I further assert the body to be rigid, I state that this latter set of distances remains constant. The rigid body is that which preserves the same internal space-relations, and that whether I suppose the body to move or my base of measurement to move. When, therefore, I take a certain varying set of signals to indicate a constant, I have to make certain corrections and to draw a whole set of tacit inferences, which cannot, therefore, be regarded as the immediate product of the sensations themselves. Suppose, for example, that I have a certain visual sensation varying in magnitude. I interpret it to indicate the swing of a pendulum or the rotation of the sails of a windmill as seen from a point in the plane of rotation. I can, as we know, interpret the same signals to mean rotation in either of two directions, or, again, not to mean rotation at all, but the protrusion and retraction of an actual object. That is, for whatever reason, I infer that the actually varying signal corresponds to a potential fixed set of relations, and therefore fixed signals to a varying person. This inference, therefore, supposes a process conducted according to certain pre-established rules, in virtue of which it is made. And, further, if I find in any way that the inference fails, I remodel the potential sensations, instead of assuming the inference to be illogical. My space-perceptions remain, though my interpretation of the particular

phenomenon varies. I reject the hypothesis of rotation; then there must be protrusion. But the protrusion is for some reason regarded as impossible. Then there must be illusion; that is, the experience inconsistent with the geometry is rejected because inconsistent, and is therefore not the source of the geometry.

Yet this is consistent with the hypothesis that in space, as in time, the geometry is the product of the assumption that the sensations must be correlated or that the interpretation must be made on such principles as to secure the correlation. Thus, in the first place, the construction of space must be facilitated by the fact that we have, as in time, a number of empirically given constants. The assumption that my hand or foot is of constant length is suggested and ultimately verified (or approximately verified) through experience like the assumption that the day is a constant in time. And this generally correct assumption must be of essential importance in enabling me to interpret the signals and to read off this and that varying indication as corresponding to the same set of constant potential relations. The problem which we have to solve is thus placed before us in a comparatively simple form, though from the particular case we could not infer the general principle. A more varying set of sensations might have indefinitely increased the difficulty. It might be curious to ask, for example, how long we should have been in working out a coherent set of geometrical conceptions if light did not come in straight lines. Probably the blind might then have been the best geometers. But, in any case, some system of interpretation obviously becomes necessary. We assume, rightly or wrongly, that A is a fixed point relatively to us; say, *e.g.*, the end of the axle of a rotating wheel. Then the assumption that A is part of a rigid body, or that every other point preserves its relations to A and to me, consistently with varying space-relations to other objects, shows that in some way there must be fixed relations between these varying relations, and it must be my problem to interpret them on some fixed system. All I can say, at first sight, is that *if* the signals still signify the same thing they are superposable; and I have to consider what are the conditions of this identity, or how a given change will affect other changes. I may then find that I have tacitly assumed a thing to be fixed which I have yet at the same time supposed to be variable. It is, of course, in exhibiting this superposability that all geometry consists. The measure must be so contrived as to admit of its systematic

and invariable application, and, further, must be the simplest upon which the assumed data can be correlated. I have argued, again, that we proceed by assuming the absolute homogeneity of space, and by then virtually disentangling the complexity arising from the distinction of distance and direction. It is obvious that our attention must be called to the element of direction. From the earliest period of animated life, the importance of recognising variability of direction, for example, is obvious. If we were, like sea-anemones, irrevocably rooted to a simple spot, we might regard the different sensations corresponding to different directions simply as varying though resembling sensations not needing to be correlated at all; but as soon as we say this is the same stick, though it is held horizontally or vertically, we must make an abstraction of the qualities in respect of which it is held to be the same. Our great difficulty, indeed, is to avoid thinking of verticality as something absolute or necessarily having the same direction for every part of the universe, or, in other words, to separate the geometrical relations from the accidental relation of gravitation. As long as we lump the sense of resistance which corresponds to weight with the purely geometrical relation, only occasionally connected with it, we have not got our geometry quite clear. But when we once identify the stick, as the same in size though different in direction, we have made the decisive step towards clearing our perceptions; and we have recognised the fact that the two determinations are independent. Without inquiring, therefore, what are the precise psychological steps involved, or trying the difficult feat of getting back into a pregeometrical frame of mind, we can vaguely surmise the way in which this essential step is or may be forced upon us.

We now have to ask what more is involved in our assumptions. To consider one point as fixed is to consider a series of points as fixed. Any other point which has fixed relations to these points is subject to further conditions through our assumption of the homogeneity of space; and we have next to ask how many indeterminate relations remain, or how many arbitrary assumptions are at our disposal, or, which is the same thing, how many more relations can be represented upon these assumptions.

We started by the perfectly arbitrary selection of an origin and a distance, and the assumption that there may be an indefinite number of points identical in distance and varying in direction. Suppose, then, that we take any two such points. Whatever is true of either, or of its relation to

the other, may be said of the other and its relation to the first. The distinction in virtue of which we call one A and the other B is purely arbitrary, and we might interchange the names without making any difference to the truth of our statements. (We may always argue safely from the fact, that we can see no difference between the cases, or that there is no reason why they should differ to the fact that they do not differ, because we have assumed that there is to be no difference or that we are to 'see' in such a way as to make no difference.) But we have only to consider this relation from another point of view, and to apply the previous considerations to see that it involves another proposition. The two points imply a straight line, and the third point (namely, the origin from which they are equidistant) implies another straight line, which must be absolutely symmetrical with respect to this line. For, we may assume as fixed, or take for a new origin the point in the line joining the two given points which is equally related to both of them. The two directions indicated by them only differ in this, that if either is called positive the other is called negative. The line indicated by the previous origin must also—when regarded from this new origin—have identical relations to these two branches. One might be superposed upon the other, the symmetrical line remaining constant; or every point along that line will have identical relations to equidistant points in positive and negative directions along the other. This is implied, therefore, in our primary assumption as to the mode of measuring the relations in question. Therefore (as, from the homogeneity of space, what is true of one line or point is true of every line or point), we have already implied that a symmetrical line may be drawn from any point in any other line; and if one line is symmetrical to another in this sense, the other line is obviously symmetrical to it.

Supposing, again, that we take any two such lines, we have any point in either of them given by a simple ratio, that is, by its proportion to an arbitrary distance; and, further, any points so taken also represent a fixed line any point of which is determinable in the same way, or, in other words, we have the plane. This is fixed when the two symmetrical lines are fixed, and any point which is in the plane and not in the symmetrical lines is not symmetrical with respect to them, though it will have a corresponding point as we take the negative instead of the positive branch of the other line for its determinant.

Now, as we took the first two points arbitrarily, the ques-

tion remains whether the symmetry of one line to another at a given point is or is not a sufficient determination. Is there only one such line, or may there be many? We know of course, as a matter of fact, that there are many; and I do not see any *a priori* proof, that is, any proof dependent on the assumptions already made, that there can be only one such line. If such a proof could be suggested it would be a *reductio ad absurdum* of my argument. I shall take for granted that it does not exist. I do not see, on the other hand, any proof that there *must* be more such lines than one, except, indeed, from the consideration, whatever it may be worth, that we must push our system as far as it will go, that is to say, until it appears to involve contradictions. Otherwise we should not extract from our method all that it is capable of giving, or, in other words, we shall have no means of determining some relations which are determinable through it. We might, that is, confine ourselves to space of two dimensions, though it is desirable to take into account as many dimensions as are possible. We will suppose, therefore, that if two symmetrical lines be given, the other lines absolutely determinable through them, as above stated, cannot be symmetrical, but that there may be more symmetrical lines than one differing from any of these.

We assume then, as before, a fixed line through a fixed point, both determinations being absolutely arbitrary. Then we suppose a second line symmetrical to the first, which, by the above, is always possible. To suppose again that there are more such lines than one is to suppose many lines, all having identical relations to the first line, or all superposable while it remains constant. But these again taken, all other lines must form a symmetrical system; for, since they all have precisely the same relation to the fixed line, they are not distinguishable in virtue of that relation, that is, in virtue of any assumption yet made. Therefore, if distinguishable, they are distinguishable only in virtue of some property of space—an assumption inconsistent with the homogeneity of space—or, finally, only distinguishable in virtue of another absolutely arbitrary assumption; so that, starting from any one, we get precisely the same series by the same relations. Here, therefore, we may or must make another arbitrary assumption, namely, of one of the symmetrical lines. Taking the fixed line OX and the symmetrical line thus arbitrarily selected OY, we have thus a system of OY's, one of which is arbitrarily taken as fixed. One case of the OY's will of course be that which is represented by inverting the positive and negative determinations; and, as we may start from

either, it is plain that if we may assume any other position than OY we may take an OY (say OZ) symmetrical again with respect to the two branches of OY. We must be able, if we suppose the OY variable at all, to assume that it can generate a system precisely similar to that defined by a fixed OX and OY. The OZ has, that is, a relation to OY identical with that which OY has to OX. It therefore follows necessarily that, if OY be not determined from its symmetry to OX alone, there must be a third axis OZ which, by the mode in which we have reached it, is symmetrical both with respect to OX and to OY. It is also symmetrical with respect to all the points determined absolutely through OX and OY, or to the plane XY, for the identity of the relations of the positive and negative branches apply equally to all the points determined through OX and OY alone, as the new factors are dependent solely upon these terms ; and similarly OX is symmetrical with respect to it as it is symmetrical with respect to every one of its positions, and OY again with respect to OX and OZ. Further, *if* OZ is supposed fixed, we now have all the points dependent upon, or determinable through, the three axes equally determined.

The only question is whether OZ is fixed, or whether we have still an arbitrary element at our disposal. If so, we should have again to apply precisely the same reasoning as before. Taking any OZ corresponding to the given conditions, and supposing that there were many OZ's all fulfilling the same conditions, and then arbitrarily selecting one of them, it follows as before, that, since every particular OZ has these relations and is therefore absolutely independent of them, we must have another OZ, say OW, symmetrical with respect to OZ. But OZ is defined as the line (or a line) symmetrical with respect to OX and OY. We have therefore to suppose a line symmetrical with respect to all three axes, and we have shown that a line symmetrical with respect to any two, say OX, OY, is necessarily different from the line symmetrical with respect to two others, OY and OZ ; in fact, it is not identical with it but symmetrical with respect to it. Therefore we are attempting an impossibility already excluded by our assumptions. When we took any two symmetrical lines, OX and OY, OX was symmetrical with respect to OY, and OY with respect to OX, or the relation was absolutely reciprocal. When we introduce a third, any two give the other, and we find a fourth symmetrical with respect to all these to be an impossibility, or to correspond to contradictory determina-

tions. Hence we have exhausted the resources of our method when we have reached the three dimensions.

This, of course, does not represent our actual logic, but represents the conditions virtually implied in our mode of reasoning. We have first assumed the homogeneity of space, and then, to meet the difficulty arising from the non-determination of a point by a simple assignment of distance, we have assumed that any two points are measurable by a method identical with that employed in the case of time; and have finally become conscious of the limits virtually imposed by the assumption. I admire my own audacity in thinking as if I really believed in my own reasoning, but I cannot help fancying that it may be possible for some better qualified person to work out the problem more successfully. The result would, I think, be to the following effect. I have tried to show what is the logic by following an actual line of reasoning, and endeavouring to assign the general principle in virtue of which it is valid. I observed at starting that we could obtain necessary truths in regard to certain empirical propositions, those of genealogy for example, when the general truths of arithmetic are applicable in virtue of our assumptions to certain particular cases. Thus we find that the genealogical problem comes simply to a case of counting the number of descents from common ancestors, the required data being implied by the statement under consideration. Such a process is much easier when we take the particular case instead of dealing with the abstract formulæ; and there is always a corresponding difficulty in discriminating the general principle from the particular set of facts in which it is imbedded. This is certainly very great in the case of geometry. The abstract principle would not by itself suggest the particular case. I, at least, can only satisfy myself, or seem to satisfy myself, that it does apply by following out the particular application; and there is a constant danger in starting from the other end of assuming the very point to be proved, and attributing the necessity to the familiar empirical truth instead of to the general abstract principle which it is so difficult to grasp by itself. At some point geometrical problems come under the head of algebra, or can be treated as simple arithmetical relations. The question is, What are the assumptions which justify this, or at what point does it become possible.

I have tried to suggest that the geometrical axioms emerge under the necessity of correlating our various impressions, and, therefore, by the help of certain assumptions. According

to my view, they are not simple empirical truths, detected by observation and conceivably different, inasmuch as they already imply a certain system of comparison and the dismissal of observations which conflict with that system. Nor, on the other hand, do I consider them to be the result of a form arbitrarily imposed upon the sense-given symbols ; for, as I have argued, they have emerged through the necessity of combining those signals upon definite and consistent principles. It is conceivable that we might have a simpler system of comparison which would be adequate for a simpler set of sensations ; or, again, that although the sense-perceptions are, as a fact, unique,[1] we might have an entirely different set of sensations, which would be comparable by a precisely similar method, as, for example, by a possible elaboration of the other senses ; or, finally, that we might have a more complex system of sensations which could not be adequately compared by this method. When in fact we have to deal with physical problems, involving higher functions of the variables, we do not construct a new system of comparison or a space of more dimensions, but are content to use the old space, only stating the new law of variation in terms of the old, and dispensing with any attempt to form a corresponding intuition. I am, however, in danger of getting beyond my depth, and am finally content to submit my arguments for what they may be worth.

[1] They are probably unique *because* it is convenient to reduce all our modes of comparison to a single system.

III.—A SWEDENBORGIAN VIEW OF THE PROBLEM OF PHILOSOPHY.

By William Denovan.

Swedenborg's peculiar phraseology, voluminousness and (what Kant called) "dreams of a ghost-seer," have conspired to render his position in the history of the human mind virtually unknown to the world. To the student there is here a loss which ought not to continue, whatever difference of opinion there may be as to Swedenborg's mental condition. A system which interested Kant, Schelling,[1] Coleridge and Emerson must be admitted to possess some intrinsic value, and a brief application of its principles to the main problem of philosophy should not be unwelcome. Swedenborg, though a systematic writer, was not in the way of laying down the conditions of a problem and from admissible postulates working logically to legitimate conclusions; each of his works consists simply of a concatenation of affirmations which, when taken altogether, form a symmetrical whole. Brief summaries of his main affirmations in his own terminology, which contains in many cases an unusual meaning, are not uncommon; but the essential element of progress or discovery involved in his principles as postulates for investigation, or in their application to the solution of problems in moral and intellectual philosophy, has, so far, been ignored. The writer here takes as a test of their value their application to the question:—Can we conceive of any possible mode of knowledge concerning a basis outside of consciousness for the facts within it; and, if so, what is that outside of consciousness which appears within it as object?

Of course, the fundamental postulates of any philosophy are incapable of being demonstrated in the same sense as deductions which are logically drawn from postulates already accepted as valid. It is equally an assumption to say that there is no world external to consciousness as to say that there is. In either case we can only perceive the manifesta-

[1] The writer has been informed that Schelling, at a late period of his life, upon being shown a volume embodying a portion of Swedenborg's system (*Fundamentalphilosophie*, by Prof. J. F. J. Tafel, Bd. i., the only volume ever published), was so struck with it that he told its author that he was on the right track to the true philosophy.

tion of it as it exists in consciousness. All that can be justly demanded of any philosophy is, that the fundamental principles laid down shall have their root in universal experience, shall not only be impregnable against all logical assault, but be in every direction capable of extended application and exhibit constant fruitfulness in the realm of explication. The problem then is to show either how the mind can evolve from itself the manifestation of an external world without violating the common sense of mankind, or to show how a world external to consciousness can hold such relationship with the conscious subject that cognition is possible, and if so to understand what that is which is noümenal.

Here, however, it is requisite to note the fact that there are discrete degrees of manifestation in the object without involving any breach of continuity from that which underlies all its manifestations, and that consequently there are discrete degrees of perception by the mind without breaking the unity of consciousness. For instance, we may note sense-perception which man has in common with the lower animals. By this he perceives phenomena such as the apparent motions of the heavenly bodies. A platform above mere animal perception, which simply gives truths in their relation to mere sense, leads man to the discovery of the true system of astronomy, and exposes the fallaciousness of mere sensuous appearance. This higher plane of perception makes manifest that which we may style *relatively noümenal*—or real when considered in its relation to that which outwardly appears to the senses. In a still higher degree a man may perceive what underlies the appearances of absolute motions, spaces and times. But even this latter can in nowise be considered the *absolute* truth, for this again must transcend the perception of all but an Absolute Intelligence. Perception may stop at either degree, but he whose perception is more interior or higher comes nearer to the cognisance of truth in its absolute sense, *i.e.*, has mentally a truer *representation* of it.

It is evident, then, that the truth involving subject-object upon any one plane becomes error to man if he takes it to be ultimate, absolute or final. Whilst it is true that the intelligence is so far limited that absolute truth is incomprehensible, it is no less true that it is impossible to define the limits of comprehensibility, or to mark out the boundary line dividing the absolute from the relative. We may indeed provisionally speak of an absolute space and time in noting what we call the real and apparent motions

in space, but it will be only correct to look upon the so-called real motions as negatively noümenal to the merely sensuous region of the mind; becoming positive when known in the higher region of the intelligence, but not absolute in the sense of self-subsistence. It would be dogmatic to affirm that our knowledge of these so-called real motions mark out for us the limits of the knowable. All questions, however, which the mind can fairly ask by not involving the infinite and the absolute, can as fairly be expected to have answers to them furnished which will be satisfactory to that plane of the intelligence which questions.

But whilst Absolute Being such as it is in itself cannot be known, the fact remains that there is Self-existent Being, and also that which is relative and finite; the latter having its being in and from the former. We do not go outside of our consciousness in the affirmation that the Absolute exists; for it attests its own existence to everyone in the very idea of it. The fact that the individual consciousness had a beginning is a plain matter of experience; and this fact, with all that it implies, must not be omitted from our cognisance of the contents of the mind. Nor is philosophy possible where it does not supply the main factor; for then we sever ourselves from the source of all knowledge. As the Absolute is to be considered identical with the Infinite, it follows that it both underlies the finite intelligence and is beyond its range; and indeed it is because the Absolute underlies the relativity of consciousness that the mind becomes aware of the existence of that Absolute Being to which it is related. We therefore do not transcend consciousness in the affirmation of an Absolute which exists independently and above it. But this very affirmation contains within itself the negation in the Absolute of such imperfect appearance as must necessarily be looked for in its representation to a consciousness derived and finite. Still the recognition of this fact corrects all necessary imperfection of our mental conditioning.

In treating of the relationship between the Infinite and the finite, all attempts to reason from the standpoint of the Infinite or Absolute are inadmissible, because where the Infinite is, finite intelligence cannot be. We cannot reasonably maintain absolute Thought and Being to be identical, when the only thought and being apprehended by us are relative and finite. It cannot be said that finite thought and Infinite Being are identical, or that the one ever passes over into the other, without plainly violating all experience. Still, as the relationship exists, intelligible answers to all questions

involving only relativity and finitude, or of the relationship to the Infinite as seen from the finite side and on the level of human intelligence ought fairly to be looked for; but no more, as this would involve the absurdity of expecting an explanation upon a plane of intelligence above natural reason.

But as infinite or absolute truth, such as it is *in itself*, cannot be known, it follows that, in order that there should not be utter nescience concerning it, perception transmitted from an Absolute Intelligence in representation, and imaged upon the level of human intelligence, would become the fundamental truth concerning it, to man; provided he recognises the fact that what to him is the absolute as conditioned by his own thought is simply a qualitative reflection of the real Absolute, but still sufficient for his side of the relationship. It is thus fully conceded that, in one sense, "what is called the Absolute is only the Relative under another name". But the Absolute reflected in that *relative* is the true Absolute, and is the One using this relative idea of Absoluteness as the bond of relationship to be witnessed from the side of human perception. Now, if we take the Absolute in all its fulness as given in *our* consciousness we *humanise* it, and it becomes to us an Absolute Humanity; and this, as a postulate, must be universally acknowledged to be as admissible as to postulate it as pure Thought, or as Matter, or even to say that it is altogether unknowable. Thus all ideas concerning the Absolute resolve themselves into this—that it is either as to will and intelligence human, or is different from the mind which contemplates it, and which was and is derived from it. If, however, we are willing to postulate the Absolute as a Personal God in comparison to whom our own personality is the merest shadow, the aspect of our relationship to Him becomes—that He has made the mind which can contemplate Him in his own image, and according to the condition of that image becomes Himself represented in it. There is no low anthropomorphism in this. To attribute will and intelligence to God, as absolutely perfect as we can conceive them to be, and also to acknowledge that they in Him transcend our conception, is not to deny that "His ways are not as our ways, nor His thoughts as our thoughts"; but rather they imply it in a sense in which every rational Theist would have it understood, that is, as transcendently human; the anthropomorphical aspect being to man the truest representation, or *covering* of his real Being to human perception. That limited personality or consciousness which is necessarily involved in our definitions of them or in our conception of

God is therefore the result of defective or imperfect perception, but the defect is remedied as soon as acknowledged. To say that the Absolute is "above personality" is to say that it is above the exercise of love or wisdom; and this is an evident violation of all reason. It is true that a God known fully and absolutely "would be no God at all"; but it is also true that a God who, if He willed, could not be fully known as representatively mirrored in human will and intelligence, would be no God at all.

We see, then, that if we attribute in absoluteness to the Absolute that which we find manifest in what is derived, we of necessity conceive the Absolute as a Personal God exercising both will and intelligence. This implies design, purpose or use, overruling all manifestations in space and time. But as there is with God absolute freedom, so in the animation of a created organic form the derivation of relative freedom in the form animated will follow. This freedom of directing the course of the life which animates or flows into man is in conformity with universal experience; though absolute autonomy, or the power of originating effort, is both inconceivable and inconsistent with the principle of the Conservation of Energy. Still, this freedom implies the granting of power to man to deflect the course of Divine purpose, and consequently to produce much in the world which was never designed by the Creator. The very fact of the exercise of purpose by the finite mind implies the permitted possibility of producing deviations from the direct lines of purpose in the Absolute Mind; yet at the same time an absolute law of order overruling all deviations, which is not so manifest. The possibility of evil is thus a necessary consequence of the exercise of freedom by the individual, even whilst animated by an Absolute Life all good; especially if such perversion of good be looked upon as increasing hereditarily through successive generations. Involuntary evils, or so-called accidents, are also, of course, not of Divine origin in the usual sense of *purpose*, but this does not imply that they are independent of a designed law of order absolutely good, the operation of which reaches through pernicious influences to the particular no less than the general. It is a matter of universal experience that the results of our endeavours are at times in exact conformity with our intentions; that at times they very imperfectly fulfil our designs; and again, that at times the results are altogether opposite. This follows analogically from our postulates: a human experience which is an image of the Divine-Human experience; the Absolute Will operating as best it can without violating the bestowed freedom of created wills.

There is, then, something which precedes and produces consciousness; and this, therefore, should be our starting-point. The laws of identity and contradiction which are only relative to us, are to be held absolute with the Absolute. Non-being is the absolutely opposite of Absolute Being; even as being and non-being are relatively opposite in finite thought. That which is opposed to our true nature is to us relatively evil; and that which is in harmony with our being is to us relatively good. The deduction cannot, therefore, be logically evaded that that which is in harmony with an unchangeable Absolute Being is unalterable absolute Good, and that all evil is of necessity the absolutely opposite of the true nature of God. Evil as an existing fact is thus good perverted in and to those who abuse their relative freedom.

We may here note that there are two kinds of opposites derived from, without existing in, the Absolute, because absolutely opposite to his nature; and this consistently intelligible to human reason. One kind is that which arises from the perversion of that which flows from the Absolute, so that the quality is altogether contrary; as when, by the abuse of human freedom, good or love for others becomes evil or selfishness; or as when truth becomes falsified. The other kind is the result of mere privation, as when darkness and cold results from the deprivation of heat and light; or as when an organism becomes dead when deprived of vitality. Death has thus two senses as being the opposite of life—the latter-mentioned species of opposites implying *natural* life and death; and the former, which is often used by theologians, *spiritual* life and death. The case is similar with spiritual heat and light, the opposites of which are respectively, in *perversion*, unholy fire and a false light in which truths appear false and falsities truths; and, in *deprivation*, spiritual cold or lack of feeling and the darkness of ignorance. Here the *becoming*, according to which opposites are related, becomes intelligible; for the Unity from whence all opposites are produced can be plainly perceived without making that which is contrary to reason the same thing as that which is not contrary, as the Hegelians do. Individuality, distinction or differentiation descends connectedly from the Absolute One from whom come all phenomena; and thus our perceptions of both unity and difference come in the universal flux of vital force from Him, producing that universal Sense or Reason by which the individual mind becomes capable of cognising the nature of the sensation of another without sinking its own consciousness into that of the other.

The true starting-point of investigation into the nature of subject and object must be a postulate which is consistent with universal experience as to their production in consciousness; for consciousness affirms the existence of something before itself, and which sustains it. Ours may be thus expressed:—Consciousness is the result of organic growth and modification, products of two factors operated by and under the guidance of God: (1) Formative or structural forces operating organically as from within outward; and (2) passive co-operation by external pressures and sustenance. In other words, Absolute Intelligence is the source of all finite knowledge, and it comes with a formative, animating force operating from the most interior root of each individual being. This, by combining with forces of environment pressing upon it, develops an organised form, and creates the world of phenomena in every mind by organic modification. The resultant individual mind becomes aware of the existence of both factors concerned in its production by the inflowing Life *in-forming* it, during the exercise of both means in the awaking of consciousness, and in the sustentation of those correspondent bases of reaction which externally appear as phenomena.

The law of the equality of action and reaction has been proved by experience to be operative in the production of all effects. The postulate, then, of this two-fold operation by Divine power in the production of phenomena will be in conformity with law as we know it.[1] It follows, therefore, that the creation and subsistence of everything, throughout all changes, result from the action of structural forces and of equable pressures upon them reacting in unison; both being equally necessary, as the acting forces would otherwise dissipate.

Creation thus becomes an act in itself distinct from the Creator; and not a mere modification of his substance. For all created objects could not then be considered absolute substance; they would only have Absolute Substance for their support. If we conceive finite intelligence to be an evolved product of such two-fold operation in the creative

[1] "In everything created by God there is reaction. In life alone there is action, and the reaction is excited by the action of life. This reaction appears as if it belonged to the created subject, from the fact that it exists when the subject is acted upon" (Swedenborg's *Angelic Wisdom*, No. 68).

"Causes do not produce effects by continuity, but by discreteness. The distinction between the two is as between the thing that forms and the thing that is formed" (*Angelic Wisdom*, 185).

work of organisation, we should have a manifestation of phenomenal life such as all experience gives; and still it is distinct from that self-existent Life which produced and sustains it. To such a derived intelligence created objects would be *relatively substantial.* The produced consciousness would be a derivation, but not a severance from, nor yet a modification of, that indivisible Life which had no beginning.

Had Berkeley recognised this reactive basis for the production and percipiency of the external world, his purpose would have been achieved. Vulgar realism or an absolute dualism of mind and matter would have been avoided, although an objective ground of independent reality would have remained. "Common Sense" would not have been set aside; for the groundwork of our sensations would still exist independently of us. And our understanding of what it is, apart from the sensations themselves, might have been looked upon as possible; for an actual relation would be seen to exist between subject and object, which is altogether lacking in the philosophy of Kant.

Whilst, therefore, all cognition is referred to the Divine Agency, there is no mystical or hyperphysical evasion of the problem, because it is intelligently involved in the known facts of organisation. Mere unorganised matter gives no manifestation of either will or intelligence; and we cannot, therefore, refer the derived intelligence manifested by organic forms to it as a Source; but we can refer to it as the starting-point of organisation and growth, for this is given in experience.

In self-consciousness the Ego does not lose its subjectivity in making itself object, self being simply the object chosen to the exclusion of any other, for objectivity is the necessary correlative opposite of subjectivity. That which is present in thought with the Ego, is that which is its past in the memory—that which has been modified by former experience being contemplated whilst undergoing further modification during reflection.

Mind and matter are thus not so incompatible as has been supposed; a perfectly intelligible relation existing between them. Phenomena are the passive manifestations of unseen activities which form them,—forms which are but the clothing to sense of underlying potencies and qualities, physical and vital, of which time and space cannot be predicated, but which we know have moulded them. In other words, *uses*, actual or potential, good or evil, are the noümena of which all apparent substances and forms are the phenomena. Matter may then be defined as the created groundwork to so

receive the Divine Life that finite mind can be produced and manifested or clothed by it; and without which the stream of vitality would constantly dissipate for lack of a vessel as its containant. In order, for instance, for mental passions to be seen, they require to be manifested on the face of a body appearing in time and space. The mind can only conceive of *uses* according to their potencies or qualities as embodied in forms which exist in time and space; and objects must, therefore, appear as existing in time and space, although time and space cannot be predicated of the uses they embody.[1]

A clear idea of that which constitutes substance as distinguished from that which apparently constitutes it, is necessary here. That in which reality becomes enveloped by forces of reaction, and which mirrors or reveals it by embodiment, appears to the senses as substantial; whilst the active cause remains hidden as if unsubstantial. For instance, the mind appears to be unsubstantial, and the body substantial, because the mind is brought forth to view by its means. Matter, with space and time, appear to be absolute realities, and God unsubstantial, without room in the universe for Him. But God is the only Absolute Substance who created matter, time and space, which are simply images of His absoluteness, eternity and infinity—different, indeed, yet giving symbolically positive knowledge of Him. Nor is there any violation of common sense or experience in this. Light and heat only become manifest when their activity is resisted or reacted upon. Yet, undoubtedly, without an envelopment no reality could become manifest. Only we must not invert truth by supposing that which is the effect to be the cause—the envelopment or means by which the reality becomes manifest to be that which it embodies.

Moreover, there are words that are applied to both mind and matter, the manifestations of which are totally different, and yet which are seen to be correspondently applicable; such as mental heat and the heat of molecular motion; intellectual light by which the "mind's eye" sees, and natural light by which the bodily eye sees. We also speak of *breadth* and *depth* of thought as naturally as we apply the

[1] "The things which are of space are predicated of the terraqueous globe viewed in itself; and the things which are of time are predicated of rotation and progression; the latter also make times, and the former make spaces; and they are thus presented from the senses in the perception of reflecting minds. But in God there is nothing of space and time; and yet the beginnings of these are from God" (Swedenborg's *Universal Theology*, No. 31).

same terms to matter, and similarly in very many cases. In this sense, mind has extensiveness and solidity no less than matter,—it extends and measures what is extended, inert and measurable.[1] If in all this there is the fact of a primordial sameness in the qualities of mind and the properties of matter, so that both are simply the active and the passive aspects of the same groundwork from whence finite consciousness is produced, the subject mind knows something not alien to itself in objective cognition.

Nor is all this mere metaphor, as will become evident the moment we put forth a definition of such words as *smile* or *frown*. Here are feelings made materially visible. The organs of the body co-respond to the mental functions which actuate them; the former admit of severance because the latter have embodied their particular modes of activity in them, which may operate separately, or not at all; but yet the whole body is the manifestation in place to sense of what the whole mind is to non-spatial perception. Indeed, Swedenborg himself maintains that the mind would dissipate with the dissolution of the body, were there not, as Paul says, a spiritual body not subject to dissolution as well as the natural body which is. Swedenborg knew well enough that no man could think without brains, or live except in a body, but at the same time he held that man could think spiritually, *i.e.*, of God, immortality, &c., and that it took brains composed of spirit-stuff to enable him to do it; because matter is only applicable to the world of present sensation. Herein lies the difference between man and the lower animals. So far as the world of matter is concerned, reason as well as instinct differ only in degree and natural application. But there is a mode of intelligence, open or latent, in all men of average sanity, even the lowest savages, which is eternally above and beyond the highest intelligence of animals. This is the universally human perception of *correspondence*. The savage who illustrated the conduct of one British official by holding up a *straight* piece of wood, and the policy of another by holding up a stick that was *crooked*, knew that he was not misunderstood.[2]

[1] "When anything derived from a spiritual principle as its origin and cause becomes visible and perceptible before the senses, in this case there is correspondence between them" (*Divine Wisdom*).

"Correspondence is the appearance of the internal in the external, and its representation therein" (*Arcana*, 5423).

[2] "The spiritual things with which natural things correspond assume another appearance in nature, so that they are not distinguished, but seem incongruous and irrelative" (*Arcana*, No. 1887).

There is, then, a world of impressing forces outside of us which manifests itself as the world of phenomena in consciousness. It is a dead passive vessel by which that which appertains to mind, more or less vitalised, clothes and reveals itself; even as the arbitrary printed forms upon this paper clothe principles that are not in time or space, rendering them perceivable by men who bodily are, and who have agreed to certain modes of transposing them in *correspondence* to variations of meaning intended to be conveyed. But this implies that the groundwork of the impressions produced upon us lies altogether outside of ourselves individually. Nor can anyone dispute the fact that we do not require to step outside of consciousness to get at the knowledge of things outside of ourselves, if an Absolute Intelligence who is both within us and without us, in the very act of making us conscious, does so by sending intelligibly a stream of His knowledge of what is without us into us during organic growth and modification.

The flux from within brings to the consciousness fundamental truths in its passage to its meeting there with the stream of reaction. The external element in the excitation of sensation, if looked upon as being all, gives us sensualism or positivism in philosophy. If the flow from within be supposed all, we have mysticism or idealism. Both taken together attest the truths of the common sense and fundamental beliefs of mankind. If, however, it can be demonstrated that it is unreasonable to hold that in organic modification a flux of Self-existent Life operating as from within can originate finite perception or consciousness, or cause the manifestation of a universe by means of correspondent impressions reacting in a manner to produce the sensation of externality; or if it can be shown that, whilst such universal inflowing Intelligence may fairly be assumed to be the cause of sensibility to external impressions in the finite subject, it can never keep carrying into a recipient consciousness the knowledge of what was before, and is outside of it;—then the dilemma in which Hume placed philosophy still remains.

In justice to Swedenborg, but still more to the unbiassed reader, a word ought here to be said in regard to our philosopher's statements concerning the spirit-world, and their claim to notice by the philosophic mind. There is one line of argument in support of his affirmations which Kant did not see, in his bewilderment, whilst virtually forced to give his opinion concerning Swedenborg's claim. Sweden-

borg's alleged experiences of the spirit-world give in detail the actualisation of that which lies latent in universal experience in this world; and the possibility is shown of how a change of subject *plus* object can occur without loss of personal consciousness to the individual, or alteration of the nature of that consciousness during subjective change. Here he stands alone in the history of religion and philosophy.

Of presumption and conceit Swedenborg must be acquitted; for his doctrine of *passivity*, according to which man originates nothing, makes all claim of merit an attempted theft from God. Indeed, were he alive now, the title of this article would have greatly annoyed him, and for 'Swedenborgian' he would have substituted 'Neo-Christian'—the term implying a new unveiling of Christian truth. In fact, according to him, the words 'Christianity' and 'Truth' are synonymous, whatever the aspect of the latter in any portion of space or time. He believed himself to be the commissioned revelator of a true *Metaphysics*, or science of Mind (including a concrete world of spirit), as connected with the realm of *Physics*. The highest stage of his revelation might be denominated *Theophysics*, or the science of Divine purpose in creation. And he looked forward to the time when the inseparable connexion of these three would be seen as "a blessing in the midst of the land". In deference to human freedom, however, he was to be deemed crazed by those who, had he written otherwise than he did, might have been "convinced against their will". His revelation, therefore, he believed to come upon the time when sensible men would call no finite man master, but would claim the right to have truth made perceptible to their reason before they be asked to admit it: "thinking from others" being his definition of human stupidity; the exercise of "freedom according to reason" being his definition of manhood.

In order that a described spirit-world should merit notice as a possible fact, not only ought it to be the exclusive one suggested in universal experience, but also there should be no valid *a priori* reason possible why, according to the known constitution of the human mind, the present world of sensation should exist rather than it. No sound reason can be given for maintaining that the existence of the present world negates a possible change from one into the other except upon the condition of violating the internal conditions of our present consciousness.

The world manifest in sensible experience is known in so

far as it conforms to the laws of the mind. In this its reality as an objective world is given. Yet still its resistance to the operations of the will and understanding is also experienced universally. As a consequence, we find that the individual mind must conform to an external order in nature; and in so far as it does not do so, the mind itself is disordered. Suppose, however, the potency of the will to be so far increased that its operations took effect upon external objects, including the body itself; or, rather, suppose a world of phenomena similar to the present, but offering no resistance to effluent mental action; so that all objects would become instantaneously plastic to subjective conditions. Here degradation in the subject would imply correspondent degradation in objectivity by the surroundings conforming to the constitution or character of each individual percipient, and be to him the only real world. By the Non-ego's changing correspondently with the desire and condition of the Ego, all the obstructions offered here by a fixed and measurable space and time would be there non-existent; for the spiritual body would overleap them, as the mind alone can do here. Still, their forms would remain, for appearances in space and time are necessary to thought; but space and time would appear longer or shorter according to changes in the individual mental states. Similar minds would draw together through sympathy, and withdraw from those that are unlike or antipathetic, and so would blend together their surroundings, giving a uniform character to the objective conditions of aggregated bodies of men. Individual reformation would be impossible, for there would be no truer order manifest to the percipient outside of himself than the condition of his own mind. Even hypocrisy would become impossible, for its motive would be taken away; and, indeed, the plastic condition of the very substance of the body or face would of necessity reveal at once the state of the mind which it clothes and organically expresses.

Now, such a world as this is only hindered from coming into actuality here by the obstructing laws and forces governing that inert ground from which is produced the world of natural phenomena; and it is therefore more really conformable to the internal condition of the mind. It is also evident that it would manifest itself according to orderly laws no less than the world of present experience, although the order would be somewhat different; for the laws of mental attractions and repulsions would be made those of the objective world, and of individual consociation. However

utterly such a world may be thrown aside as a fancy, the constant effort with everyone to produce it cannot be divorced from his world of present experience.

To accept, then, as a matter of faith the reality of a world of completed effort for man, with a corresponding internal embodiment suitable for his existence upon it; and this in conjunction with our material embodiment in *its* present world of sensation, is not unphilosophical when none of us can deny our constant endeavour to overcome the barriers of space and time, and to make matter plastic to our will. Indeed, physical science in its onward march is simply endeavouring to realise *here*, so far as it can by invention, the world which we are describing. Conceive, then, an objective world on which all men who have ever lived and died consciously exist, the surroundings of each being in correspondence with his character or tendencies, and where mental attractions and repulsions operate by consociation and separation,—and we have there the spirit-world as Swedenborg depicts it.

IV.—RESEARCH.

MENTAL ASSOCIATION INVESTIGATED BY EXPERIMENT.

By J. McK. Cattell, Prof. of Psychology, Univ. of Pennsylvania, and Sophie Bryant, D.Sc.

Mental Association has always interested students of psychology. The importance of studying the train of ideas is everywhere admitted, and by the English school association has been put forward as an explanation of mental phenomena. We may, therefore, be glad that it has recently been found possible to investigate the subject by scientific experiment. During the past ten years such research has been undertaken both in England and in Germany,[1] and of this our present work is a continuation.

1. Methods of Experiment.

Most of our experiments were made in a way so simple that they may be repeated by anyone. A spoken or printed word was given to an observer (or 'subject'), who was required to say or write as quickly as possible what it suggested. The experiment thus began with the perceiving and ended with the expressing of a word. The intervening mental process is an association, the name being here taken in a wide signification. We used 20 nouns (given in Table V.) with about 500 observers, and 250 or more words with 6 observers. We thus have a large mass of material which we shall consider in regard to (1) the time taken up in the process and (2) the nature of the association.

The time it takes for one idea to suggest another is of scientific and practical interest. It was also of advantage in a first series of experiments to get the observer to give the associated idea as quickly as possible in order to obtain uniformity. Three methods were used to measure the times. (*a*) In the first series of experiments, made by C. at Leipsic (1885) with the help of Dr. Berger, apparatus[2] was employed which made it possible to measure to the thousandth of a second the time of each association. Such elaborate methods could not, however, be conveniently used with a large number of persons, nor was it necessary to measure so exactly the time. (*b*) We therefore (1885-8) prepared lists

[1] Galton, *Inquiries into Human Faculty*, 182 ff., and *Brain*, 1879, 149 ff.; cp. Mind iv. 551. Wundt, *Physiologische Psychologie*, 3rd ed., 312 ff., 364 ff. Trautscholdt, *Philosophische Studien*, i. 213 ff. Kraepelin, *Tageblatt der Naturforscherversammlung zu Strassburg*, 1885. Cattell, Mind xii. 68 ff.; *Phil. Stud.*, iv. 241 ff. For an account of theories concerning the "Association of Ideas," with references, see Croom Robertson in *Encyc. Britannica*, 9th ed., ii. 730 ff.

[2] For description, see Cattell, Mind xi. 220 ff.

containing 10 words, and the observer seeing the words in order said what each of them suggested, the total time for the 10 processes being taken. The average time of association could thus be obtained with sufficient accuracy, but not the time for the separate processes. We were able, however, to get the times for different classes of associations by using lists made up of concrete nouns, abstract nouns, verbs, &c. (*c*) In a third series of experiments, made mostly by B. (1887-8), a method was used that admitted of a number of persons being tested simultaneously. A word was distinctly spoken, and the observers were required to write in the order suggested as many words as they could until they were stopped after 20 secs. In this case the number of ideas suggested was complicated by the need of writing them down, but the results seem to show that the number of ideas was limited, not by the rate of writing, but by the rate of thought.

While three different methods were used to measure the times, the process of association in the several sets only differed in so far as in the first two sets the starting-word was read and the suggested word spoken, whereas in the third set the former was heard and the latter written. In this third series of experiments we have the train of ideas for 20 secs., and this is in some ways more interesting than the first idea suggested. This latter, however, presents the simpler problem, and gives as much material as can be conveniently considered in the present paper. We may at some future time have experiments on the train of ideas, and we hope that others will also undertake research in this direction.

2. The Time taken up in Mental Association.

The times we obtained in our experiments do not give merely the duration of the process of association, but include the time required to perceive the original words, and to say or write the suggested ideas. The time, if any, taken up with intermediate ideas which are not expressed in definite words must be considered as part of the association-time. In the cases where the duration of a series of processes was measured, it is not possible to eliminate with any exactness the perception-and movement-times. This is due to the overlapping of the processes; an association may be going on while the foregoing idea is being expressed or the following word is being perceived. Experiments, however, show[1] that it takes on the average about $\frac{1}{2}$ sec. to see and name a word; so if this interval be subtracted from the whole time we get approximately the duration of the association. In comparing the time required by different persons and classes of persons the whole interval may be used, the perception-and-movement-time being short as compared with the association-time, and in a general way proportionate to it.

[1] Cattell, Mind xi. 63 ff.; 530 ff.

(*a*) In the first series of experiments, it was possible to eliminate the perception-and-movement-time, and thus to determine with great accuracy the association-time. This is given in thousandths of a second in the following Table. There is also given after the average time the mean variation of the different measurements. 52 words of each class were used, German for Dr. Berger, English for C.

TABLE I. *Time of Association.*

	Concrete Nouns.	Less Concrete.[1]	Abstract Nouns.	Verbs.
Bg. ...	361 (73)	540 (168)	633 (188)	538 (184)
C. ...	380 (108)	384 (108)	508 (171)	465 (144)

The time of association was thus in the neighbourhood of $\frac{1}{2}$ sec. It will be noticed that the time was longer (Bg. 272, C. 128σ) when the given noun was abstract than when it was concrete. This is an interesting fact supported by all our experiments. The time of association with verbs was between that for concrete and abstract nouns. According to this method, in all, 832 associations were made by C., about half of them on new words, the other half on words which had already been used. The average time of association was 475σ, a little less than $\frac{1}{2}$ sec. The mean variation of the different associations from the series in which they were made was 134σ, nearly $\frac{1}{7}$ sec. If difficult and unusual associations are omitted by dropping the 6 most irregular times from each series of 26, the average time becomes 431σ, the mean variation 69σ. Thus the usual time required by C. to form an association such as we are here considering is somewhat less than $\frac{1}{2}$ sec., and does not vary greatly from time to time. The longest associations were *deliverance-hope* (1453), *cut-knife* (1085), and *civilisation-wilderness* (1064); the quickest *good-bad* (111), *father-mother* (132), and *life-death* (143). With these latter it will be noticed that the relation between the two ideas is so close that the association follows almost as a matter of course.

(*b*) In our second series of experiments associations were made by B. and C. on 500 words. Of these words 250 were concrete nouns, 100 abstract nouns, 50 proper nouns, 50 verbs, and 50 adjectives. Associations with the concrete and abstract nouns were also made by Mr. Stout, and with the concrete nouns by Mr. Edgeworth and Miss Hughes. We further selected 10 abstract and 10 concrete nouns (given in Table V.), and used these with 17 university graduates (men). With these, also, Miss Dudley tested 25 students of an American women's college (Bryn Mawr), and Dr. Berger 40 students of a German gymnasium. In these cases a list of ten words was first used for practice, the results not being recorded. The average time of

[1] The nouns were divided into three classes: *author* and *hour* are not as concrete as *book* and *clock*.

association in seconds is given in Table II., the interval including, however, the perception-and-movement-time.

TABLE II. *Average Time of Association.*

	CONCRETE.	ABSTRACT.	PROPER.	VERBS.	ADJ.
B.....	1·53	1·77	2·06	1·68	1·74
C.....	1·14	1·2	1·28	1·2	1·16
S.....	1·76	2			
E.....	1·88				
H.....	1·19				
University Graduates..	2·11	2·42			
Bryn Mawr College.....	3·14	4·1			
Gymnasium II*b*.....	2·42	4·31			
id. III*b*.....	4·46	7·07			

With these observers, consequently, the average time of the mental process varied from a little more than one to about seven seconds. These varying times evidently indicate important personal differences in rate of thought and stage of mental development. The shorter times may be partly referred to clearer understanding of what was to be done and to greater decision in choosing out some special association, as well as to the fact that some think faster than others. Other conditions, such as practice, are also concerned, and the nature and complexity of the process doubtless varies considerably with different observers. But all the factors are psychological; and, while at present we may not be able to define the part played by each, we may hope that such experiments will ultimately throw light on the development and nature of thought. It will be noticed that in all cases the associations on abstract nouns took up more time than those on concrete nouns, but the ratio of the two times varies with the different observers, and shows that the use of abstract thought greatly quickens its relative rate.

(*c*) Our third series of experiments was made with the three lists of nouns above-mentioned, but the observer, instead of naming a single association for each word, wrote what was suggested during 20 secs. The average time could thus be obtained, but the first association of the series differs somewhat from the following, and the time devoted to writing was a larger part of the whole interval than was the movement-time when the suggested idea was named. Table III. contains a summary of our results, the average time for each word being given in secs. The observers were mostly students of a London and a Dublin girls' school. The experi-

ments in the latter were made by Miss Josephine Conan, who also made those on the Irish Royal University graduates.

TABLE III. *Average Time of Association.*

FORM.	NO. OF PERSONS.	AVERAGE AGE.	ON CONCRETE NOUNS.	ON ABSTRACT NOUNS.	AVERAGE OF BOTH.	RATIO OF CONCRETE TO ABSTRACT.
	LONDON SCHOOL.					
VI.....	30	17·8	3·70	4·55	4·13	·81
V.....	138	16·3	4·26	6·06	5·16	·7
IV.....	111	14·8	4·76	7·41	6·09	·64
III.....	84	12·7	6·90	11·76	9·33	·59
Average.....		15·1	4·76	7·14	5·95	·67
	DUBLIN SCHOOL.					
	71	14·5	6·25	8·34	7·30	·75
	BRYN MAWR COLLEGE.					
	10		3·51	4·88	4·20	·72
	LONDON GRADUATES.					
	13		3·03	3·85	3·44	·79
	IRISH GRADUATES.					
	8		3·08	3·92	3·58	·75

The Table explains itself. A distinct shortening of the mental process accompanies growth and education. The students of the sixth form of the London school required less than half the time of students of the third form. A corresponding result was obtained in the German gymnasium (see above Table II.).[1] The girls in the Irish school required about the same time as girls of the same age in the English school, and the students in the American college the same time as the students in the sixth form of the English school. It will be noted that the relative time for the abstract associations becomes less as the students are older; it is less for the Irish than for the English students. The number of students in the forms of the English school was sufficient to eliminate accidental sources of variation. The times for the separate divisions of the forms are not so regular, but any variation can to a large extent be explained by the character of the class, and in turn throws light on it.

[1] Dr. Berger has recently published experiments on the rapidity of mental processes in the different classes of a German gymnasium. See *Phil. Stud.*, v. 170 ff.

The 363 students of the London school were divided, according to their class-rank, into four parts. The average time of association for each quarter is given in Table IV.

TABLE IV. *Average Time of Association according to Rank.*

	CONCRETE.	ABSTRACT.	AVERAGE.	RATIO OF CONC. TO ABST.
1st Quarter.....	4·65	6·90	5·78	·67
2nd Quarter.....	4·88	7·14	6·01	·68
3rd Quarter.....	4·76	6·90	5·83	·69
4th Quarter.....	5	7·41	6·21	·67

This shows an increased rate of association as the class-rank of the students is higher, but the difference is not great. Indeed, it is possible that such experiments measure the alertness of the student's mind more accurately than does the class-rank, which depends largely on diligence and other factors not telling in such experiments. The Table does not show a difference for the several quarters in the relative rate of the concrete and abstract associations; consequently higher class-rank does not seem to be accompanied with greater ease in abstract thought, attention to objective details being equally useful.

We may lastly notice the average number of associations made by the English students in 20 secs. on the several words used. This is given in the next Table, and, for convenience, the amount that it is above or below the average.

TABLE V. *Average Number of Associations with different Words.*

CONCRETE NOUNS,						ABSTRACT NOUNS.					
House	4·7	+·6	Bird...	4·1		Time....	3·9	+1·1	Love.....	2·4	−·4
Tree...	4·6	+·5	Shoe..	3·9	−·2	Courage	2·9	+·1	Strength	2·6	−·2
Ship...	4·8	+·7	Hat...	3·8	−·3	Form...	2·7	−·1	Part.....	2·4	−·4
Chair.	4	−·1	Child.	3·7	−·4	Virtue...	2·3	−·5	Beauty..	2·8	
Clock.	3·9	−·2	Hand.	3·6	−·5	Art.....	3·1	+·3	Number	2·7	−·1
Average.....4·1						Average.....2·8					

The Table shows a tolerably constant decrease in the number of words written as the series was continued. Thus with the first word of the concrete list on the average 4·7 associations were made, with the last word 3·6; with the first word of the abstract list 3·9, with the last 2·7. This bears witness to, and in a way measures, fatigue or decrease in attention as the experiments were continued. The falling-off in the number of associations was not, however, regular, and we may thus see that some ideas lend themselves more readily to associations than others. It was found easier to make associations on *ship* than on *clock*, on *time* than on *virtue*.

3. The Nature of the Association.

We have explained the method used to obtain our associations. The observer was given a word and was required to say or write as quickly as possible what other word was suggested by it. For the sake of uniform results and for other reasons, this seemed the best way to begin an investigation into Mental Association, but it by no means concludes it; our experiments being, as we have seen, conditioned by the need of *naming* the suggested idea and doing it *quickly*. The nature of the process can best be gathered from our results, wherefore we give them as fully as is consistent with the reader's convenience. The lists of ten concrete and ten abstract words were used with 465 observers, and in Table VI. we give all the associations which occurred ten times or oftener, together with the number of times they occurred.

Table VI. *Most Frequent Associations.*

CONCRETE NOUNS.

House.	74 room(s), 43 window(s), 39 brick(s), 25 [door(s), furniture], 23 garden, 19 people, 12 chair(s).
Tree.	212 leaf (ves), 45 branch(es), 28 green, 17 flower(s), 11 colour, 10 shrub.
Ship.	111 sail(s), 80 mast(s), 67 sea, 33 water, 19 boat, 16 [sailor(s), wood].
Chair.	115 leg(s), 64 wood(en), 52 seat, 46 table, 35 cane, 14 sitting, 12 stool.
Clock.	157 time, 121 hand(s), 27 watch, 22 pendulum, 18 tick, 14 [face, works].
Bird.	131 wing(s), 69 feather(s), 40 song(s), 23 singing, 15 sings, 14 flying, 12 nest.
Shoe.	86 leather, 74 boot(s), 60 foot (eet), 46 lace(s), 24 sole, 18 heel, 17 button(s).
Hat.	70 head, 46 feather(s), 41 straw, 33 ribbon(s), 32 bonnet, 30 trimming(s), 12 cap, 11 brim.
Child.	35 boy, 29 mother, 21 baby, 20 dress, 18 young, 16 girl, 15 parent, small, 13 age, 12 man, 10 [hair, infant, pretty, toy(s)].
Hand.	219 finger(s), 23 nail(s), 20 arm(s), 15 foot (eet), 13 glove(s).

ABSTRACT NOUNS.

Time. 102 clock, 56 hour(s), 27 minute(s), 18 tide, 13 watch, 12 year, 11 work.

Courage. 103 bravery, 68 brave, 19 strength, 16 bold(ness), 10 [fear, hero, man].

Form. 74 shape, 10 colour.

Virtue. 127 good(ness), 45 vice, 14 [patience, truth], 10 grace.

Art. 115 painting, 49 drawing, 45 picture(s), 43 science, 18 music.

Love. 34 kind(ness), 24 affection, 36 hate(red), 16 [mother, parents], 15 friendship, 12 like, 11 gentleness.

Strength. 46 strong, 43 weak(ness), 30 power, 26 force, 21 man, 15 courage, 14 health, 13 muscle.

Part. 60 whole, 24 portion, 18 share, 17 half, 13 piece.

Beauty. 55 lovely(iness), 46 pretty(iness), 22 ugly(iness), 16 face, 10 beautiful.

Number. 44 figure(s), 39 many, 34 one, 18 quantity, 17 arithmetic, 10 crowd.

We shall give below a classified list of all associations made on *house* and *time*. Here it may be worth while to call attention to the frequency of certain associations as shown by the Table. Thus, to nearly half the observers *tree* suggested *leaf* (*ves*) and *hand finger*(*s*). In the above Table an average of less than eight associations with each word is given, and more than half of all the associations made were included within these narrow limits.

Before treating of the classification of our results, we shall give, in addition to Table VI., a selection from the associations made by B and C on the longer lists of words. The original word is given first in each couple, and after it the associated word.

TABLE VII. *Examples of Associations.*

B. Water—pail, candle—stick, curls—yellow, tooth—wash, rod—spare, elbow—out at, cloak—blue, jam—raspberry, cap—fur, house—door, hair—golden, watch—clock, heathen—Christian, coat—red, nightingale—bird, philosopher—wise, battle—soldiers.

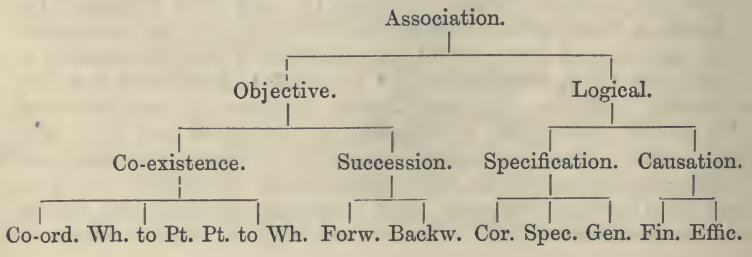
C. Garden—house, forest—tree, spectator—theatre, rod—child, beast—beauty, melody—tune, queen—king, friend—enemy, affect—effect, building—house, mind—magazine, music—art, farm—food, rib—Eve, water—flow, tea—drink, protection—government, heathen—heath.

The associations given in Tables VI. and VII. illustrate the "Laws of Association" dwelt on by the English psychologists. The majority of them could be classified under Contiguity in space and time, Similarity and Contrast. Following the best authority, we may at once depose Contrast to a subdivision. We should then have left Contiguity in space and time, and Similarity. These two classes represent fundamental differences which are borne out by our experiments. Contiguity in space and time defines, perhaps, with sufficient accuracy the nature of the associative link, but the meaning is clearer when we

reflect that this class contains such associations as have been given us ready-made by sensation. Contiguity-in-space does not cover all cases of simultaneous contiguity, for example, a melody suggesting the words belonging to it. Contiguity-in-time calls up too much the idea of disconnected and sharply defined events following each other, whereas the associations of this class are probably due to the overlapping rather than to the succession. We prefer to use the terms Objective or Outer to define association due to previous connexion in sensation, and to subdivide it into Co-existence and Succession.

Similarity seems to be an unfortunate term. It gives at the outset an explanation, which is altogether rejected by many psychologists, and it does not naturally include cases of specification, definition and cause. In contradistinction to those associations which are given in sensations, we wish to designate such as are due to thought. These we shall call Logical or Inner. We do not wish to imply that the link of association must be wholly objective or wholly logical, on the contrary the results of our experiments show that in many, if not all, associations both factors are concerned. But in most cases it is easy to see which is predominant. Logical associations we shall subdivide into Specifying and Causal, analogous to the division of objective associations into co-existing and successive.

These four classes may with advantage be further subdivided. In the case of the Objective-Co-existing associations, there is an important distinction as to whether the movement is from Part to Part, from Whole to Part, or from Part to Whole—for example, whether *house* suggests *garden*, *window* or *street*. There is a quite analogous distinction with the Logical-Specifying associations, the relation in which may be Correlation, Specialisation or Generalisation; thus *house* may suggest *church*, *villa* or *building*. In Successive associations the direction may be forward or backward, that is, in an order the same as, or the reverse of, the original presentations,—thus, *house* may suggest *top* or *glass*. Analogously Causal associations may be either Final (forward) or Efficient (backward), that is, may give end or means, the terms being used in a sense broad enough to include all causal relations; thus *house* may suggest *shelter* or *builder*. The plan of classification which we obtain is thus as follows:—



In Table VIII. we give all the associations made by 465 observers on the words *house* and *time*, classified according to the method we have proposed.

TABLE VIII. *Associations with*

House.

Co-ordination—25 furniture, 23 garden, 19 people, 12 chair(s), 7 table(s), 4 trees, 2 bed, pictures, 1 [boy, cat, girls, grounds, lady, master, men, road, servant-girl]; (103).
Whole to Part—74 room(s), 43 window(s), 25 door(s), 13 roof, 7 stairs, 6 bricks, walls, 4 chimney, 3 storey, 2 floor, stones, 1 [bedroom, glass, kitchen, street-door, slates]; (190).
Part to Whole—3 [street, town], 2 road; (8).
Forwards—7 -top, 4 -maid, 2 [-dog, -rent, -to let], 1 [-agent, -hold, -of commons, -step, that Jack built, watch, -wife, -work]; (25).
Backwards—1 glass; (1).
Correlation—6 cottage, 5 mansion, 2 cot, 1 church, hut, 3 mouse (*verbal*); (18).
Specialisation—6 tall, 5 [brick, size], 3 [home, large, situation], 2 [dolls, height, high], 1 [big, grey, kind, low, magnificent, Morton Hall, pretty, this house of wood, tool-house, villa]; (41).
Generalisation—7 buildings, 5 dwellings, 2 habitation, 1 abode; (15).
End—3 [home, inhabitants], 2 [inmates, to live in, shelter], 1 [dwelling-place, habitation, live, people]; (16).
Means—33 bricks, 6 builders, 2 built, 1 [build, stones, wood]; (44).
Unclassified—1 [dice, hat, wind]; (3).
Misunderstood—(1).

Time.

Co-ordination—(0).
Whole to Part—(0).
Part to Whole—(0).
Forwards—18 tide, 11 work, 7 flies, 2 [be quick, space], 1 [ever-rolling stream, flies fast, how it flies, -keeper, money, o'clock, price, race, reapers, slaves, -table, "time, gentlemen, time," -to do it, -to learn, -up, "waits for no man," -waits]; (57).
Backwards—1 [lose, lost, thief, when Father Time]; (4).
Correlation—8 eternity, 6 place, 5 [age, space], 3 [hurry, speed, to death, quickness, weather], 1 [duration, duty, haste (need for), life, manner, old age, swiftness], 3 thyme; (49).
Specialisation—56 hour(s), 27 minute(s), 12 year, 9 [day, long], 7 [late, lessons], 4 [quick, second(s)], 3 [length of time, scythe, short, when], 2 [early, fast, holidays, how long, how much, lost, night, quickly, seasons, waste], 1 [classes, examination, fast or slow, Father Time, for play, good, image, infinite, leaving school, magazine *Time*, moment, no time now, present, slow, slowness, something o'clock, soon, swift, term, train, twenty-four hours, what, what time, what time now, youth]; (194).
Generalisation—4 length, 3 space, 1 [passing, value]; (9).
End—1 [commerce, employment, not to waste, use, work]; (5).
Means—102 clock, 13 watch, 2 [hands (of clock), works (of clock)], 1 [hour-glass, sun-dial, tick (of clock), vibration]; (123).
Unclassified—1 [poems, temper, water, will]; (4).
Misunderstood—(23).

This classification gives the most convenient divisions which we were able to make of the associations obtained by our experiments. We do not, however, look on the classes as 'natural kinds'. On the one hand our subdivisions run into each other, and an association is rarely or never due to one only of the relations; on the other hand further subdivisions might be made.

The relation of Part to part, Whole to part, and Part to whole, with the corresponding logical subdivisions, Correlation, Specialisation and Generalisation, are perhaps the most important of the distinctions, but they are not defined with entire sharpness. Thus it depends on the attitude of the observer's mind whether *house—furniture* is a relation of Part to part or of Whole to part, and *house—cottage* of Correlation or Specialisation.[1] It seems possible that in most cases of Co-ordination the mind goes first to a whole and then to a part; thus, *house* may call up the complex *house and garden*, but there being no convenient name for this, *garden* is named. In associations which have been put under Cause and Succession the movement is often from a part to a whole; thus, when *bird* suggests *sings*, the total complex may be a singing bird, and when *house* suggests *top*, the part leads to a verbal whole.

As concerns further subdivisions of the classes, it is evident that the Objective associations might be distributed among the senses by means of which they were originally given. As a matter of fact the associations of Co-existence are almost without exception visual, and the associations of Succession verbal, *i.e.*, a complex of auditory, muscular and perhaps visual sensations (of printed words). The Logical associations might conveniently be further subdivided. Similarity and Contrast are natural subdivisions of Correlation, and there is an intervening class represented by associations such as *king—queen*, *shoe—boot*, &c. Then verbal similarities such as rhymes and alliterations are materially different from the rest. Specialisation includes a general or particular case as, *strength—man*, or *Sampson*, and a qualification, as *hair—yellow*. Generalisation includes associations as different as *snow—white* and *music—art*. An End or Final Cause may be purpose, object or act, as in the examples, *house—shelter*, *love—mother*, and *boy—run*, and in the case of act the given idea may be taken either as active or passive; thus water may suggest *flow* or *drink*. Under Means or Efficient Cause are included source, material, &c.

Returning to our chief divisions, we give in Table IX. the percentage of associations falling to each. It contains the results of more than 12,000 observations made with 516 observers. The majority of these, however, were school-girls, as their results

[1] In Table VIII. such associations are put under Co-ordination, but C thinks in the case of young students the relations were most likely of Whole to part and Specialisation. There are also a few other cases in which the writers differ as to the classification.

dominate. An analysis for different classes of observers will be given below.

TABLE IX. *Percentage of Associations.*

		CONCRETE.	ABSTRACT.	PROPER	VERBS.	ADJECT.
	No. of Associations	6120	5310	200	200	200
Objective.	Co-ordination	10	0	17	0	0
	Whole to Part	34	0	10	0	0
	Part to Whole	1	0	17	0	0
	Forwards	4	5	9	15	9
	Backwards	2	1	5	1	0
Logical.	Correlation	10	33	16	18	18
	Specialisation	19	31	7	48	68
	Generalisation	3	8	5	0	1
	Final Cause	13	4	12	9	0
	Efficient Cause	1	4	2	9	4
	Unclassed	1	2	0	0	0
	None	1	6	0	0	0
	Misunderstood	0	6	0	0	0
	Objective	51	6	58	16	9
	Logical	46	80	42	84	91
	Verbal	6	6	11	14	6

The Table shows that in the case of concrete nouns the ratio of Objective to Logical associations was 51 : 46, that is, the link of association was not quite as often supplied by thought as by sensation. As regards subdivisions it will be noticed that Whole to part and Specialisation are favourite categories, whereas Part to whole and Generalisation are not often used.[1] Employing the terms to include both Logical and Objective associations, Co-ordination was the relation in one-fifth of the cases, Whole to part in more than half, and Part to whole in one-twenty-fifth. In Succes-

[1] Steinthal says (*Einl. in die Psych. u. S.W.*, p. 161) the part more readily suggests the whole than the reverse, because "the mind rests in the thought of a whole". The advantage of experiment to theory is illustrated by comparing this with our results.

sion, Backwards occurred half as often as Forwards; and in Cause, Efficient was much rarer than Final. In 1 per cent. of the cases the association could not be classified, and in 1 per cent. no association was made. Our classification is not as useful for abstract as for concrete nouns, as with abstract nouns, Objective associations, other than verbal, scarcely occurred. The classes Correlation and Specialisation are about equal in size, each including nearly one-third of the cases, and four times as many as Generalisation. Fewer experiments were made with proper nouns, verbs and adjectives, and these were confined to B and C. In the last line of the Table is given the percentage of cases in which the association seemed to be purely verbal.

The nature of the association differs considerably with different persons and classes of persons. This variation in the case of concrete nouns may be studied in Table X. The first four columns contain the results of experiments made by Mr. Edgeworth, Miss Collet, and the writers; the fifth column by 31 university students and graduates (mostly women); the four following columns by the several forms of the London girls' school; the next column by the Dublin girls' school; and the last column by the boys of a German Latin school.

TABLE X. *Percentage of Associations with different Observers.*

OBSERVERS.	E.	CT.	B.	C.	UNIV. GRADS.	LONDON SCH. VI.	LONDON SCH. V.	LONDON SCH. IV.	LONDON SCH. III.	DB. SCH.	GER. SCH.	AV.
No. of Assoc....	250	250	250	250	310	300	1380	1110	840	710	470	
Co-ordination..	11	8	14	9	7	15	12	10	10	7	3	10
Whole to Part..	4	3	4	1	47	35	41	47	42	30	32	34
Part to Whole..	1	6	3	3	0	3	1	0	1	0	4	1
Forwards.....	3	14	14	10	1	1	1	1	0	5	10	4
Backwards.....	5	19	5	2	0	0	0	0	0	0	5	2
Correlation.....	22	19	20	12	9	24	6	4	6	13	17	10
Specialisation..	33	19	24	21	20	10	18	19	15	23	16	19
Generalisation.	11	1	5	2	2	1	1	3	2	5	5	3
Final Cause.....	7	3	8	37	11	10	15	11	16	12	7	13
Efficient Cause.	1	2	1	3	2	0	1	2	1	0	1	1
Unclassed.....	0	4	0	0	1	1	1	1	1	1	0	1
None.....	0	0	0	0	0	0	1	0	4	4	0	1
Objective.....	24	50	40	25	55	54	55	58	53	42	54	51
Logical.....	74	44	58	75	44	45	41	39	40	53	46	46
Verbal.....	8	33	26	12	2	1	2	1	1	8	14	6

The Table shows that Logical and Verbal associations are favoured by the first four observers, who teach and write. With the students Whole to Part is the favourite category, they seem to visualise the object and name some part of it. With the English school girls less than half the associations are Logical, and very few are Verbal. With the Irish school girls more than half are Logical, and 8 per cent. are Verbal; this is perhaps due to the fact that the training in the Irish school is more literary. While the students of the London school made only about 1 per cent. of Verbal association, Ct and B, who teach in the school, made respectively 33 and 26 per cent. The 14 per cent. of Verbal associations made by the German students is doubtless due to the nature of the language. The largest proportion of logical associations ($\frac{3}{4}$) was made by E and C, who are engaged in abstract studies.

The nature of the association depends not only on the observer, but also on the word given. The percentage of the several kinds of associations occurring with different words is given in Table XI.

TABLE XI. *Percentage of Associations with different Words.*

456 ass. on each word.	TREE.	CHAIR.	BIRD.	CLOCK.	CHILD.	HAND.	TIME.	ART.	COURAGE.	LOVE.	NUMBER.	BEAUTY.
Co-ordination..	4	10	12	1	12	10	0	0	0	0	0	0
Whole to Part..	65	40	46	41	11	56	0	0	0	0	0	0
Part to Whole..	2	2	1	0	0	1	0	0	0	0	0	0
Forwards.....	0	0	0	0	3	3	12	2	2	5	2	3
Backwards.....	0	0	0	0	0	0	1	1	0	0	0	0
Correlation.....	8	8	1	8	16	5	10	15	54	36	21	30
Specialisation..	15	29	13	4	40	9	42	62	16	12	52	37
Generalisation.	5	0	1	1	7	2	2	6	18	15	6	18
Final Cause.....	1	9	23	42	4	9	1	4	2	18	1	3
Efficient C.....	0	0	0	0	0	0	26	7	0	2	7	2
Unclassed.....	0	0	2	2	2	1	1	1	2	1	2	0
None.....	0	1	1	1	5	4	5	2	6	11	9	5
Objective.....	71	52	59	42	26	70	13	3	2	5	2	3
Logical.....	29	46	38	55	67	25	81	94	90	83	87	90

The Table shows that the association is largely determined by the original word. *Tree* and *hand* are natural objects which are easily pictured, and have parts (leaves and fingers respectively)

readily named. With *child*, on the other hand, Specialisation was the favourite category. Final Cause was the largest class in the case of *clock*, a thing made and used for the special purpose of measuring time. Conversely *time* often suggested the means of its measurement. Of the other abstract nouns, *art* and *number* were commonly specialised, while *courage* and *love* most frequently suggested a similar or contrasted idea.

We wish to lay special stress on our Tables, as these contain the results of extended series of experiments. In a joint paper it is not convenient to enter into criticism and discussion; we have, consequently, confined ourselves to the exposition of our research. We, however, add a section in which several of the observers discuss the experiments with special reference to the subjective aspect of the association.

IV. Remarks on the Experiments.

By G. F. Stout.

I wish chiefly to draw attention to the nature of the process by which the mind passes from the given idea to that suggested idea which is the first to be definitely recognised and named. In my case the transition seems to be most commonly mediated by a more or less obscure total presentation, including as part of its content both the given and the suggested ideas. At the time when I was subjected to these experiments, I always felt that the word which came first to my lips, and which was therefore set down in Dr. Cattell's list, was a hopelessly inadequate indication of what was actually taking place in my mind. By retrospection following close upon the actual process, I was for the most part able to recover and analyse those contents of my consciousness which I had found it impossible to express in words or to render explicit in thought.

Examples will make my meaning clear. *Smoke* suggested *fire*. The intermediate link in this case was not the picture of a fire smoking. It was the phrase, "Where there is smoke there is fire". Nor was the connexion merely a verbal one. The words were quite indistinct. The first among them to emerge into clear consciousness was the word *fire*. In the intermediate state, what vaguely floated before my mind was the general sense of the saying considered as an example of inference. There was also traceable in my mind a dim and distant reference to a lecturer who had used this illustration in my hearing. *Finger* suggested *heart*: in this instance, transition was mediated by the vague total presentation of the circulation of the blood. I thus came to think of the heart as propelling blood to the extremities. *Cannibal* suggested *Andrew Lang*. Here there loomed before me the massive and blurred presentation of what I now in retrospect name and recognise as "anthropology". In this in-

distinct totality, the first detail, besides the given one *cannibal*, which acquired sufficient definiteness and salience to be verbally expressed was the name of the well-known author, *Andrew Lang*.

It would be possible for me to analyse a large number of similar examples. The great majority of the suggestions in my case were of the kind described. The transition from *tail* to *the rest* is worth noting, because in this case the process was concluded, so to speak, at an earlier stage than usual. *Tail* revived the obscure presentation of the whole animal. Instead, however, of singling out some special detail within this whole, it occurred to me just to name *the rest* of it without further ado.

The instances in which I proceeded from given whole to a part of that whole, or from a given part to the whole comprehending it, were comparatively few, and I do not think that they require any special discussion. The usual course of reproduction in my case passed from a named and definite partial presentation by the mediation of an unnamed and obscurely defined total to another named and definite partial presentation.

The next point to which I wish to call attention is the limitation imposed on the subject of the experiments by the necessity of finding a verbal expression for his thought as soon as possible. This is certainly a disturbing condition, which interferes with the analogy between the experiments and the normal course of reproduction. There is perpetually present in the mind of the experimentee a voluntary effort to find some word or other, whatever it may be. This circumstance seems to me greatly to augment the influence of merely verbal connexions on the flow of ideas. It might be well to try experiments in which no regard should be paid to the time occupied by the process of suggestion.

In conclusion, I may remark that what interests me most in these experiments is the indication which they seem to afford, when closely examined, of the operation of obscure links in the process of reproduction. The psychological atomism of the English associationists is perhaps mainly due to the neglect of these obscure phenomena. If we lose sight of the indistinct whole which mediates transitions between its component parts, the train of ideas must of necessity appear a separate and exclusive succession.

By F. Y. Edgeworth.

With regard to these words I have hardly any explanation to give. I just stuck down, or rather cried out, whatever word came up first. The first word did not always correspond to the first idea. Often there seemed to be a throng of ideas struggling for expression. Thus, in the case of *Saint Matilda*, the word *Saint* raised the ideas of an amiably mild lady, in fact the picture of Saint Cecilia, only I could not remember in time her name; and the first name which occurred was that of the heroine in *Rokeby*, suggested by some similarity of character.

I could have gone a little faster, I think, if I had made an effort; but I thought it best to make as little effort as possible. The most conscious exercise of will occurred after assigning adjectives to several words, such as *beautiful* to *hair*, *bright* to *lamp*. I felt it would be stupid, and perhaps disappointing to the experimenters, if all the results came out of this type, so I changed my hand and checked the flow of adjectives.

By E. P. HUGHES.

My attitude of mind during the experiment was this: I did not care at all what words were suggested; my mind was free to suggest any words; but I had decided the words were to come quickly. I *willed* that they should come quickly; I did not *will* as to the kind of words that came.

At first I found nouns suggested nouns, and there was generally a connexion that could be traced. After a little, however, I found the nouns suggested not nouns but whole sentences, and a word out of these sentences was taken, sometimes an adverb, or a verb, or an adjective, and very occasionally a noun. *E.g.*, the word *slave* brought up to my mind many sentences expressing my detestation of slavery, and I said the word *bad*.

I allowed my mind to work in any direction as long as it worked quickly; but all the time I found myself criticising the connexions, and generally recognising whether they were reasonable or not, and being amused at absurd and far-fetched connexions, and also when the word said was in no way connected, as far as I could see, with the word given.

I found a great difficulty in remembering afterwards the words I had said. I found it easier to remember them several minutes later than immediately after I had said them. In one instance I utterly failed to remember what word I said at the time, and remembered it with little effort ten minutes later.

I found it was easy to say words after the first three or four words of the 10 words in a group; it then became difficult, but I felt at the end of the 10 words, if the list had been longer, I should eventually have given the words more quickly.

After two or three groups of 10 words, I came to a word I could not read, and from that time I felt a waste of energy in so far as I continually dreaded meeting a word I could not read. In the fourth group I misread a word, and thought it was a verb and not a noun, and when I learnt my mistake I felt there was a further expenditure of energy to the end of the experiment, because I always dreaded taking a noun for a verb; and once the word *bottle* raised in my mind the question whether it was a verb or a noun, and I said mentally 'noun,' and ejaculated *Yes*.

When I started by mentioning the 'colour' of a noun given I generally gave several colours, and the same with 'shape'. I found there was a greater inclination to give shape than colour.

Occasionally I remembered the general impression given by a word, *e.g.*, *slave*, but I could not remember the particular word I gave, *viz.*, *bad*.

The word *cow* appeared frequently. I have a special horror of cows.

Hat-good: I had lately made a hat-rack, and one part of it was specially praised; my teacher was a foreigner and used the word 'good,' and, as he did not speak in English as a rule, the word was very impressive. *Baggage-bandage:* my father, when a surgeon in the militia, kept a supply of bandages in his baggage, which I had rolled up sometimes.

By C. E. Collet.

Eight per cent. of the words suggested by the 250 concrete nouns selected for experiment were names of things in coexistence; here in nearly every case the idea excited by the name suggested the next idea, and that idea suggested the name: the mental processes were comparatively simple. The word *cavalier* suggested the word *Charles I.*, having aroused a picture of the times of Charles I., in an atmosphere of Sir Walter Scott's novels, with Vandyke's portrait somewhere in space. *Scaffold* suggested confused representations of persons in fiction ascending scaffolds, including Sydney Carton (*A Tale of Two Cities*), Clayton the actor, and, most distinct of all, Strafford, whose name was the one actually uttered. The names of the others did not enter my thoughts, and the whole picture was vague, most prominent being the representation of feelings excited when reading the stories of Carton and Strafford.

Only two per cent. of the words suggested were the names of parts of the things denoted by the words read.

Six per cent. were names of wholes suggested by names of parts; *e.g.*, *violin* suggested by *string; theatre* by *curtain; Attic* by *philosopher*, this association being partly due to an image of *Le Philosophe sous les Toits*, and partly to the verbal association 'Attic philosopher'.

Fourteen per cent. of the words come under the head of Forwards Associations, nineteen per cent. under the head of Backwards Associations; so that thirty-three per cent. are classed as Verbal Associations, and of the nineteen per cent. classed under Specialisation many are undoubtedly verbally suggested.

As examples of verbal forwards associations, *bell* suggested *bell-horse*, the name given by workmen to men encouraged to spur them on to greater speed; *cap* suggested *cap-à-pie*, neither word raising any representation beyond the printed letters; *mob* suggested *mobilise; hand* suggested *hand-maiden*. In these cases the train of thought is started by words, not by ideas. One noteworthy exception to this is the suggestion of the word *sweep* by the word *chimney*. This word at once revived Hans Andersen's story of the China shepherdess; the word was localised in China-

shepherdess land, and the whole story reviewed, so far as I can judge, before the word *sweep* came to the lips as the easiest to be uttered.

The 48 words classed as instances of Specialisation, and the 48 words classed as instances of Backwards verbal association resemble each other in being to a great extent the result of verbal association, but the dominating mental process was different. The specialisations were nearly all suggested by words rather than by a specialising process on my own part, but the words did actually suggest to me the special things, and my attention was given to them; *e.g.*, *garden* suggested *kitchen*, and attention was given to the representation of a kitchen-garden. Under the head of Backwards associations I have put words which were verbally suggested but which were not accompanied by representations of the things denoted by them. The instances under this class are the results of a complex process. *E.g.*, *ornament*. The first syllable, together with the meaning of the word, aroused faintly the words, "Beauty unad*orn*ed ad*orn*ed the most," and the first word actually uttered was *beauty*.

Men suggested the title of Stevenson's book, *The Merry Men*, but concomitantly with it rose the representation of the story in which I localised the 'men'—the story, not the book. The written word seems always to take up a position in space and to be a kind of keyhole through which the mind passes to an imaginary world. It arises most probably from a constant habit of reading fiction and looking at a world located beyond the printed page which gives admittance to it.

The word *skin* was followed by the name *Nicodemus*. At first, although quite conscious of the mental process preceding the utterance of the word *Nicodemus*, I could not see any connexion that *skin* had with it. As soon as I saw the word, I was looking at the representation of a fairy tale: a little dwarf was jumping before the fire, and I seemed to know all about him and to know his name, but I could not say it; *Ne*buchadnezzar (the last part of the name being very faint) rose as somewhat analogous, but not the word I wanted, and was followed by the utterance of *Ni*codemus, which seemed more satisfactory. The word which I wanted to pronounce was Rumpelstiltskin, and the analogy between the names was then and is now quite clear to me; Nicodemus and Rumpelstiltskin seem alike, both rhythmically and in a certain element of ridiculousness which I cannot define. But it was some time before it flashed upon me that *skin* had raised the name and the story of Rumpelstilt*skin* by a backwards association.

Instances of Co-ordination were nineteen per cent. of the whole. In this class many of the words suggested were merely different names for the things denoted by the written words; *e.g.*, *brain* suggested *cerveau*. Compared with the others, this class is noticeable for the absence of reference to books, songs, speeches, &c.

There was not one instance of Generalisation.

By S. Bryant.

The mental process concomitant with the utterance of the suggested word appears to me of such considerable complexity in many cases as to be by no means expressed or even hinted at in the spoken word. This, in fact, expresses one feature of the whole, because that feature was either most interesting, most prominent, most easy to name or earliest in time. In the case of concrete nouns, such as water, plate, lane, the most conspicuous factor of the whole process in my mind was the definite and varied activity of the pictorial imagination. Into whatever class the expressed association eventually falls, there went with it a picturing out of either the expressed or associated idea, or both, with quite a considerable surrounding of local and other particulars.

The simplest cases were those coming under the first head. Thus *water-pail* means a simple picture to the second element in which the spoken word attaches, and this is classed under Co-ordinate Existence; the picture here appeared to be present before the word and to have caused it. On the other hand, *candle-stick* seemed in the making of it to be verbal only—an auditory and motor sequence in time—but the picture of a candlestick followed so simultaneously that this association also might easily have been taken to mean primarily a case of Co-ordinate Existence. Verbal associations with this pictorial sequence occurred quite commonly, and these as well as others I felt bound to classify as Verbal associations, though if made by other people I should have treated them differently in default of the necessary introspective knowledge. With such a verbal association as *rod-spare*, into which was quite consciously condensed the whole quotation, "Spare the rod and spoil the child," imagination threw up vague pictures of naughty children and irate old dames, while the name at least of Solomon rose also to mind, though passing on in haste to the next word on the list. My verbal associations, including rhymes, amount to the large proportion of 26 per cent., being much the largest that occurs with the exception of Miss Collet's high proportion of 33 per cent.

The favourite class for the majority of those experimented on is that of Whole to Part, and this might seem at first to be the most natural expression of the fact that the meaning of a concrete noun is most commonly realised by the formation of a pictorial image. I make, however, only 4·4 per cent. of associations under this head, and only 22 in all the Co-existence classes taken together, while the class of Specialisation alone contains 24·4, and is my most favoured class. But I found the pictorial element very potent in associations of this kind. In *curls-yellow*, for instance, the picture of yellow, curling hair rose distinctly to mind, with attention fixed on its admired character of golden

yellowness; and the associated word is simply descriptive of the image seen under a distinct play of æsthetically inspired imagination. Similar remarks apply to *cloak-blue*, *jam-raspberry*, *cap-fur*; the image is described as it happens for some reason or other to be particularised, and in the two former cases I was aware of a preferential motive. In such cases it is probable that the image is less generic than when *house* suggests *door*, or *table chair*. In *house-door* the image may be generic, and the attitude of mind is certainly analytic; while in *cloak-blue* the image must be specific up to a certain extent, and the attitude of mind qualitatively descriptive as well as particularising. Thus the two descriptions *hair-face* and *hair-golden* indicate quite different movements of mind, though they might have started from similar images of hair in the first instance.

In calling such results as we have obtained associations it is understood that the word is used in a broad sense, and any discussion of the limits which should be put on its exact use would not be suitable here. I may, however, point out that the forced rapidity of the process by which the subject of experiment linked each word to each must have tended to secure that the most readily suggested word came to hand first, thus excluding, so far as possible, deliberate acts of choice, which would certainly have presented results that were not mere associations. To secure the minimum of thought proper is essential in the production of associations. Nevertheless, it is quite certain that even with all haste a considerable amount of thinking and choosing does get itself done in these experiments; and I believe the introspection of other observers will bear witness with mine on this point. The exact analysis of the processes and their proper classification would require much careful observation and experiment of an introspective character. All that it seemed possible to do in objective experiments, such as ours were in the main, was to eliminate the higher thought activities as much as we could by not giving them time to produce spoken results.

By J. McK. Cattell.

I find it extremely difficult to observe by introspection the process of association, whether in the usual course of mental life or in experiments such as are here recorded. If, however, I combine the results of these experiments with introspection, I conclude that, when one idea suggests another, they have previously been associated in a common presentation, and that the suggestion is possible because the idea in distinct consciousness belongs to a larger whole, some of it indistinctly given, the rest below the threshold of consciousness. In conclusion, I should like to emphasise the fact that we have made *quantitative* determinations in two directions: we have measured the time of mental association, and obtained statistics of its nature.

V.—DISCUSSION.

ON SOME FACTS OF BINOCULAR VISION.

By John Venn, F.R.S.

There are several points in Mr. Hyslop's treatment of Binocular Vision, in Mind No. 52, as to which I find myself unable to agree with him. As these involve divergences from some of his experimental results, as well as from his inferences, it will be better to give a somewhat independent account of what I personally seem to perceive in these cases, in respect of binocular vision, rather than to attempt a criticism of his general conclusions, which would, in fact, involve rather more space than can well be spared in the 'Discussion'-section of Mind.

It may be briefly stated at once that I take it for granted, for the purpose of the present inquiry, as an ultimate fact, that points whose images fall on 'corresponding' spots of the retina are perceived as single, and that those which do not so fall are perceived as double. And as regards the position in space of the totality of objects whose images will so fall, at any given moment, on corresponding spots, I take for known the usual conclusions as to the form of the 'horopter'. The significance of this last assumption is, however, lessened by the fact that, for such small areas as those of the circles in the following diagrams, the plane of the paper may be reasonably supposed to coincide with the horopter; that is, if any one point in one of these circles is seen as single, so will all other points in the same circle.

The way in which I should approach the discussion is as follows:—The question of binocular vision is very commonly stated in the form, Why do we, with two eyes, see objects single? Surely this is a very misleading way of putting it. The general statement is that we do *not* see objects single, the exception being when we do so see them; though the practical convenience of the 'exceptional' attitude places it in the position of the 'rule,' for ordinary human experience. By calling the above statement the general one, nothing more is meant than what would be meant by such an expression in mathematics, *viz.*, that the exceptions are to the non-exceptions as the finite to the infinite, or as zero to the finite. Suppose that there is a bright point in front of me, then, so far as geometrical or binocular considerations are concerned (that is, omitting the effects of irradiation, non-perception of distinctions or distances below a certain minute value, and so forth), there is one inclination, and one only, of the optic axes by which that point will be seen single, whereas the inclinations by which it will be seen double comprise all the other

possible angles. And when that particular object has been thus reduced to singularity or unity, a corresponding division and ratio prevail in regard to all other objects. No other objects but those on the horopter will be seen single; and the horopter being a surface and space a solid, the proportion of the objects which are not seen single to those which are seen single, at any given moment, may fairly be said to be indefinitely great.

The question, therefore, must be somewhat differently phrased. Under the conditions stated in the second paragraph—that is, taking it as an ultimate fact that our eyes possess the properties there indicated—we may better put the question thus: What is the reason which induces us to select that particular inclination of the optic axes, out of all the possible inclinations, which will reduce visible objects to unity? There is no compulsion in the matter beyond the pressure of habit and of instincts of immemorial origin. In fact it does not appear to me that any other reason is needed than that of practical convenience. When anyone has acquired, by frequent exercise, the knack of 'doubling' any visual object, and, what is more, of keeping it doubled whilst he proceeds to scrutinise either of the two resultant images, most of the performances of visual life can be very fairly carried on under such conditions. I can see what o'clock it is, watch the weathercock, find my way about the streets, even read single words and short sentences, with almost equal ease in either way. The directions in which one fails are mostly the two following. Consider, for instance, the doubled images of the objects on the table before me. The two pictures are, so to say, dislocated and pulled sideways so as to overlap, and consequently each individual object is apt to lie across some other neighbouring object. But when the objects are of various sizes, shapes and colours, and especially when there is a tolerably large unbroken surface upon which they stood out clearly, we find that there is not much difficulty in picking out each of them and considering it separately. The process is certainly no harder than that of reading a letter which has been 'crossed,' where the same sort of discriminative selection has to be made. But when I double the image of a page of the book before me, the result is utterly confusing, for each word falls upon another word which is composed of letters partly or entirely of the same shape, and all of exactly the same colour. Given, however, distinct small objects on a clear surface, no practical inconvenience need be experienced. Nay, there is in certain cases a kind of convenience in seeing objects double instead of single. For instance, if I draw a small figure of any shape on a sheet of paper and double it visually, I can proceed to *trace* that object on the paper, an inch or two to the right or left, exactly as a child does with his transparent slate, by simply making the pencil follow the outline of the transposed image. It requires some practice to succeed at all, owing to the almost invincible instinctive tendency of the two

images to coalesce, but with a little time and trouble I found I could make very fair copies in this way; and I apprehend that with long practice very accurate copies might thus be made. Of course, when the two—the original and the copy—are made to coalesce afterwards, the eye is extremely sensitive in observing any discrepancies between the two.

The other difficulty concerns the correlation of our muscular actions with our visual images. I remember, by the way, once speaking with a man who presumably squinted badly, and who gave as a reason for ill-success at lawn tennis that 'he always saw two balls'. I told him that this ought on the contrary to be rather a help to him, as giving him an extra chance, for if he could succeed in hitting either of those balls over the net it would count equally to the good for him. This, of course, was an overstatement, for familiarity with his own way of visualising the world ought by then to have put his eye and his hand into perfect correlation. On actually trying a similar experiment, I found, it must be admitted, that at first I always missed the object, but this was simply owing to my retaining my former muscular associations under new visual conditions. For example, squint strongly at some small object on the table before you, and proceed to hit with a stick at one of the images, and you will of course hit to right or left of the object. (It will not do, by the way, to thrust the stick straight out before you towards the object, as the eye will then follow the stick and prevent the object from being seen consistently double: it is better, therefore, to hit downwards from over the shoulder, so that aim is taken and the stick is in full motion before it comes into sight.) But as soon as I got into the way of aiming midway between the two objects I found that it was perfectly easy thus to hit the two imaginary birds with a single stone.

It was remarked above that the main source of confusion arose from the two distinct superimposed pictures being made up of parts which closely resembled each other, as when we double the printed page of a book before us. In the extreme case of perfect repetition of similar or identical parts, this source of confusion disappears, and any inclination of the optic axes which will serve to bring corresponding portions into superposition will satisfy the eye. Thus any pattern which repeats the same small figure perpetually on a wall-paper, screen or carpet will offer a case in point. So long as we take account of binocular vision only—*i.e.*, consider only the information given by the inclination of the optic axes—there seems no reason for perceiving such an object to be at one distance rather than another. Any inclination of those axes, whether greater or less than the normal one, which will superimpose similar portions of the pattern, will give equal satisfaction. The possible number of such positions is a mere geometrical question, depending upon the closeness of the texture of the pattern as compared with the distance of the object from

us. Practically, of course, we decide by other considerations, such as the focal adoptation of each eye singly, our previous knowledge of the object itself, and still more by the indirect vision we can generally secure of the other objects surrounding the surface on which the pattern lies. But put such a case as this. Suppose the stars were so arranged as to constitute a very close and perfectly uniform pattern over the whole heavens, then mere binocular vision would not justify us in putting them at one of the possible distances rather than another. Or, to take a more natural instance, if on looking out to sea on a dark night there was nothing visible but two lights far out in the distance, separated by a short horizontal distance, there seems no reason, so long as we look at them with both eyes, why we should decide that there were two lights rather than three. Cases of such a kind are of course very exceptional, and the general statement remains true that, with our eyes as they now are, there is just one inclination of the axes for every small object, which prodigiously simplifies the visual picture of that and of the nearly surrounding objects, and this inclination is accordingly selected instinctively and almost inevitably. And the inclination which thus produces simplification serves also the important purpose of deciding the *distance* of the object.

Let us now turn to the consideration of Mr. Hyslop's figures, the first of which is the following:—

As he says, these can be combined in various ways, either by what he calls "convergence" or "divergence," or by various constructions of the stereoscope. For simplicity we will only take one of these, *viz.*, simple convergence, or the effect produced by superimposing the images by increased inclination of the optic axes. That is, double each object in this way, and continue the separation of the images until the middle two of the four (*i.e.*, the left eye's image of the right object and the right eye's image of the left object) shall coincide, and reduce the four to three. Of these three the mind is then to take account as far as possible of the centre one only, *viz.*, that which is seen by both eyes, the outer ones being seen by single vision only.

It will be convenient to decide first what is the exact position and apparent size of the object so perceived. This can be settled readily in either of two ways. In the first place, we can determine the position by a process of simple proportion, the three

deciding elements being the distance between the centres of either pair of equal circles, the distance between the centres of the observer's eyes, and the distance at which the paper is held from the eye. Or, secondly, we may fix the diagram at a convenient distance, and then move a fine needle up and down between it and our eyes until the double image of the needle is reduced to unity by the needle standing at the exact distance at which the object is perceived. I have tried both methods—(there was a reason, as will be presently seen, for taking this trouble)—and find that they agree in giving as accurate and consistent a result as the somewhat rude means at my present disposal could lead one to expect. That is, when the diagram is held at the (to me) convenient distance of 13 inches from the front of the eyeballs, what I seem to see is a couple of circular rings which may be conceived to form the outline of a frustum of a cone, one being nearer the paper that the other. These rings are respectively a little less than half-an-inch and a quarter of an inch in diameter: they stand just about half-an-inch apart; and the furthest of them, *i.e.*, the base of the cone, is about five and a-half inches nearer to my eyes than is the paper. By speaking of this as what I see, it is meant that a solid object of that size and at that distance would produce precisely the same images on our eyes as is produced by combining the two circles of the diagram in the way contemplated. And this appears to me to be all the explanation necessary under the restrictions laid down at the outset.

But here begins one of my points of disagreement with Mr. Hyslop. He speaks of the images being *fused*, or, as I understand, he considers that the eyes simultaneously perceive both the nearer and the farther of the imaged circles as single.[1] If this were so, we should have to admit that points *not* 'correspondent' on the retina could nevertheless yield a single image. That first appearances are in favour of such a view I quite admit. On first looking at the diagram with the requisite amount of convergence, one does certainly seem to see simply two circles, one behind the other. That is, they appear to be simultaneously single, neither of them resolving itself into two nearly coincident but actually intersecting circles. But on very deliberate and careful inspection I see that this is not the case. When I converge my eyes for the small or near circle I can detect that the larger or remoter one is really double, and conversely. The semblance of singleness or fusion arises, I apprehend, simply

[1] I gather this from the whole discussion, but more especially from his speaking (p. 501) of the whole figure of the frustum of a cone as a "fused" image, and from his saying (p. 514) that in constructing the second figure we are to "draw the smaller circles so that they are beyond the limits of combination simultaneously with that of the larger," implying presumably that in the former case they were not beyond those limits.

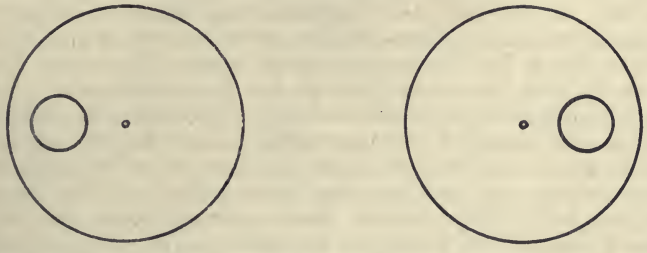
from the fact that the non-coalescing parts of the circles (of the larger or smaller circle as the case may be) are so near together that when seen, as they must be in the case in question, *by indirect vision* they do not appear distinct. It is well known how slight is our customary notice, and how feeble our power of discrimination, in respect of objects whose retinal images lie even but a little away from the yellow spot, and how readily therefore objects which are really double may be taken for granted to be single. But careful observation can do something to remedy this. I feel little doubt that anyone who has given some attention and practice to indirect vision will agree with me that attentive scrutiny will show that to converge the eyes for either circle instantly doubles the other. If anyone cannot see this by mere observation there is a ready help to which he may resort. Fix the paper in a frame at a suitable distance, and arrange a needle to slide up and down, towards or from the paper, but parallel to it, and seen always in the centre of the diagram. Fix this needle at the position in which it is seen single when we are looking (say) at the outer circle or base of the cone. It will then, of course, occupy the place of a common diameter to the two apparently concentric circles. Then run the eye along the needle, from its point of intersection with the outer circle, towards the inner circle. Before we have reached the latter, there will be no mistake about the actual doubleness of this inner circle. The only use of the needle here is, of course, to help the eyes to retain unchanged precisely the amount of convergence they had adopted for the outer circle; untrained and unaided eyes will involuntarily make the accustomed change of convergence in passing from one circle to the other. Fusion, therefore, in the sense in which I understand it to be meant, that is, as including the whole figure simultaneously, is not necessary, and in fact appears to be impossible in such cases.

I observe one characteristic here which the experience of others may perhaps confirm. As regards the fact of *relief* or solidity the illusion is complete: there is no mistaking that one circle looks nearer than the other. But as regards the *distance* of the figure it is otherwise. That it looks nearer than the paper is true, but I cannot feel that it really *looks* as if it were only about seven inches from my eyes. The only way in which I can thoroughly bring this home to me is by holding some slender object, such as a penholder or needle, at that distance before the eye.

Is not the reason of this to be found in the fact that we do not judge of distance by the amount of convergence only, but that, amongst other resources, the focal distance of each eye is also appealed to? The outline of each circle, observe, remains quite sharp even when they are supposed to be consolidated into an object only about seven inches distant. Now, though it is easy enough for anyone to *converge* for that distance, it is quite impos-

sible for anyone with normal sight to *focalise* for that distance.[1] I cannot but suspect that the mind unconsciously recognises this, and therefore detects the consequent incongruity and unreality of the result. Perhaps some short-sighted person will tell us whether the imaginary solid looks more plausible to him than it does to others, as regards its distance from us. The illusion as to distance certainly seems to me much more complete when the paper is held a yard off, so as to place the imaginary solid at a distance of about 18 inches.

Now, consider another of Mr. Hyslop's figures:



and apply the same process of convergence to these circles as we did for the others. Speaking for myself, there are two decided points of contrast between this figure and the last. In the first place it is impossible to reach even the semblance of simultaneous combination or fusion of the larger and smaller circles; and in the second place there is not any such close approach to deception as regards even mere solidity or relief (apart from the apparent distance of the whole figure) that there was in the former case. I feel that in combining the smaller circles I am exerting more 'convergence' than in combining the larger, and I know very well that the same change of convergence would have to be made in glancing from a farther to a nearer object; but I cannot honestly say that the one ring does look nearer than the other. The thing somehow does not look quite life-like here, and I can only thoroughly convince myself of the relief by the needle or pencil test.

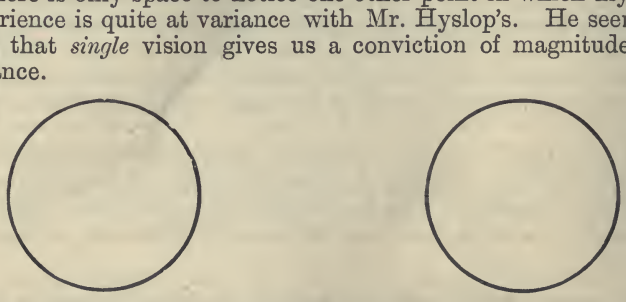
Why is this? On first studying the figures I was under the impression that the apparent unreality might arise from the fact that the 'parallax' was too violent; *i.e.*, that two rings, or a frustum of a cone, could not be seen so differently by the two

[1] I presume that the experience of others will confirm me in saying that our power of voluntary control of the focal adaptation is very small in comparison with that of the axial inclination. When gazing at a near object we can easily throw the eye out of focus by adapting it for a supposed remote object, and so blur the outline, but we have no power of performing the converse. At least I used to find that this was so in my own case, until the adoption of glasses altered the circumstances.

eyes unless standing at a distance much too small for convenient vision. But, on 'taking out the quantities' as before, this proved not to be the case. The solid figure here simply consists of two circles about an inch apart, their respective diameters being slightly under five-eighths and one-eighth of an inch, and the distance of the nearer one being about five and a half inches from my eyes when the paper stands at thirteen inches. This is certainly very near—far too near for focalisation by the single eye—but not too near for accurate and convenient management by binocular treatment.

Why, then, does not the result of artificial convergence look natural, or produce any deceptive semblance of relief? Not because we cannot here produce simultaneous fusion over the whole figure, for, as was remarked above, this is not possible even in such a case as that of the former diagram. Several reasons, indeed, occur to one, such as—the incongruity of the focalisation; the fact that it is impossible to draw or print two circles which are as exactly alike as are the two retinal pictures of the same circle; the fact that the paper as well as the circles is visible, &c. Unfortunately these reasons apply also in the former case where there *was* deception. The only explanation that I can suggest is that we are here dealing, so to say, with a differential phenomenon; that the actual relief is double as great in the latter case as in the former, and the proportional relief greater still, since the object is supposed to be nearer; and that accordingly the sum-total of counteracting associations, which were not able to set aside the direct binocular testimony as to a slight relief, may yet be able to shake our full confidence in the existence of a strong relief. But a longer and more varied course of experiments than I am able to attempt at present would be needed in order to decide this point.

There is only space to notice one other point in which my own experience is quite at variance with Mr. Hyslop's. He seems to hold that *single* vision gives us a conviction of magnitude and distance.



For instance, when we converge the images of these circles (and thus form an image of a small circle some six inches off) he says, "I always notice that the central circle seems both nearer and smaller than the exterior circles" (p. 511). Unless we appeal to the feeling of focal adaptation or to extraneous sources

of information—and to none of these is there any reference in the context—I must confess that I notice nothing of the kind. In the first place, the outside circles are naturally seen by indirect vision, when all evidence of magnitude and distance becomes scanty; and when I do glance aside and look at them (with one eye only, but keeping the convergence unchanged, so that the central circle remains fused or single), there is to me no suggestion of one distance rather than another. As regards the direct evidence yielded by single-eye vision, all distances beyond some ten or twelve inches seem to produce exactly the same effect. Any feeling of belief which I may entertain, as to the apparent distance, rests upon extraneous considerations.[1]

As regards the power we possess of determining the distance of an object by the amount of convergence of the optic axes, I apprehend that we have very little power indeed in this way except by *changing* the inclination. That is, when a single object is stripped of all its surroundings, and we gaze steadily at it, we find much difficulty in deciding how far off it is. There is a simple test of this. Take a common magnifying glass, of three or four inches diameter, and look at the reflected images of a lamp which stands some distance behind. One image is from the concave inner surface, and is therefore nearer to us than the glass; the other is from the convex outer surface, and is therefore farther than the glass. But, judging from my own experience, it is difficult to feel sure even of this, and quite impossible to say how far off either image is, without resorting to such help as that of the needle in the former experiments. The reason, presumably, is that the image stands by itself, quite out of relation, so to say, with any familiar surroundings or background, that it is magnified or diminished in apparent size, and its shape distorted. We are therefore left in almost exclusive reliance on the actual amount of binocular convergence, and this seems to be an imperfect support, though doubtless the best

[1] One of the few cases in which I seem to appreciate the distance of an object seen with one eye only places it *too near*. Take the following experience. Look at a bright object such as a candle or lamp, and 'double' it by convergence. But instead of continuing to look, as usual, between the two images, *viz.*, in the direction of the real object, look steadily at the right image. That is, make the right-eye image always fall upon the yellow spot. Increase the convergence, and thus make the two images separate more widely apart, until the left one of these falls upon the blind spot. The result is then as follows. We have strong convergence, only one image visible, and that image so bright that nothing can be seen through it so as to rob it of its apparent solidity. That is, we have all the conditions commonly indicative of a single near object seen by binocular vision, and this may be confirmed by the customary device of holding a pencil on the finger at the spot where this is seen single. And accordingly—at least I find it so—this single-eye object looks unmistakably close. But then this is to resort to binocular considerations.

single support we have. The only way in which I can ever feel the least confidence as to the (either real or perceived) relative position of objects at different distances is by glancing backwards and forwards from one to the other, when the change of direction of the optic axes is easily perceived.

These brief remarks, it need not be said, are not intended as a criticism of Mr. Hyslop's general view. They are merely intended to illustrate my own view, which is (I presume), in essentials, the common view, and to explain the bearing of some of his figures as so interpreted. This view might be summed up as follows:—Our two eyes give us two exactly similar pictures. If the axial inclination were selected at random, these two pictures would intersect, with the confusing result which we see when one semi-transparent sheet of written paper is laid over another. Independently, therefore, of all instinctive tendencies, we should soon find it necessary to select that inclination which we find will happily secure complete fusion of one selected small object, and of a certain area around it. And having done this we secure in addition a clue to the *distance* of that object. On binocular considerations, this inclination of the optic axes is the only clue we have to distance, but it cannot be relied upon except where we are able to glance repeatedly from one object to another. That is, it is not so much a mere muscular position as a feeling of change of muscular position which yields us this knowledge. Any artificial adaptation—such as that of voluntary convergence or divergence, or the stereoscope—which will enable us to superpose similar figures will produce precisely the same effect as if a real solid object were before us. When there is any failure to persuade or deceive us as to the relief, this is owing to our appeal to other than binocular considerations—very possibly, in the case of near objects, to the focal adaptation of the single eye.

VI.—CRITICAL NOTICES.

Mental Evolution in Man. Origin of Human Faculty. By GEORGE JOHN ROMANES, M.A., LL.D., F.R.S. London: Kegan Paul, Trench & Co., 1889. Pp. ix., 452.

In a previous work (see MIND ix. 155, 291, 473) Mr. Romanes endeavoured to distinguish and to define the various grades of mental development exhibited by animals. He now passes from animal to human intelligence, and will attempt to trace a continuous evolution of the latter from the former, so as "to explain the whole mental constitution of man even in those parts of it which to former generations have appeared inexplicable". This problem is, as Mr. Romanes says, "perhaps the most interesting that has ever been submitted to the contemplation of the race". It is a most difficult as well as a most interesting problem, and its difficulty, so far as he has yet dealt with it, has in my opinion proved too great to be surmounted even by the courage and ability of Mr. Romanes. The present volume is limited to a consideration of the origin of Human Faculty, which is identified with the origin of Concepts. Mr. Romanes purposes to treat in subsequent volumes of the further development of human intellect and of the genesis of distinctively human modes of emotion and volition.

The outline of the present argument relating to the origin of concepts is as follows:—

"The faculty of ideal abstraction furnishes the *sine quâ non* . . . to all grades in the development of thought". There is a kind of "rudimentary abstraction" common to man and animals, which may be accompanied by a rudimentary language but is not dependent on language for its existence. It depends on generic images or "recepts". These are "mixed ideas" generated by the fusion of the residua of partially similar percepts with each other and with fresh percepts, as they arise. "As in 'a composite photograph' the sensitive plate is able to unite many more or less similar images into a simple picture, so the sensitive tablet of the mind is able to make of many simple or particular ideas . . . a generic idea." This process being unperceived by the mind in which it takes place is of necessity non-voluntary. In order intentionally to compare and combine ideas, it is necessary to be aware of them as ideas, *i.e.*, to be self-conscious. Generic images, as being unconsciously and passively received rather than voluntarily produced, are called by Mr. Romanes "recepts" in contradistinction from concepts, which originate in the intentional comparison of ideas recognised by introspection as mental states. Receptual cognition is more or less perfect according to the number of recepts formed and according to their generality, *i.e.*,

according to the degree of diversity existing among the component representations united in the generic image. In both respects, the receptual development of the human infant in its earliest stages is not higher than that of the more intelligent animals. Even when it becomes capable of expressing its ideas by gestures and articulate sounds, it does not on that account rise above the intellectual level of those animals which possess a rudimentary language. The signs used by it are at the outset only signs of recepts, analogous to animal gestures and the words used by talking birds. But, unlike animals, the human infant does not remain at this level. His receptual cognition becomes in time more varied and more highly generalised than that of any animal. This "higher receptual" stage forms the connecting link between the mind of man and that of animals. In it the conditions are given on which the genesis of self-consciousness depends. The advent of self-consciousness makes possible intentional comparison and combination of ideas, and it therefore raises the mind from the plane of receptual to that of truly conceptual cognition. Hence the "higher receptual" phase of mental development is also called the "pre-conceptual". Conception is to be identified with the simple judgment, which is expressed by intentionally applying a connotative name. Such judgments are "the essential elements of those more complex judgments which are expressed in formal propositions". They are possible only through an "introspective act in the light of self-consciousness". This light is wholly denied to animals and it does not dawn upon the human infant until his third year; for not until then does he begin to speak of himself consistently in the first person. And, as in the infancy of the individual, so in the infancy of the race, the conceptual is preceded and introduced by a pre-conceptual stage. *Homo alalus* is the forerunner of *homo sapiens*. "Long after the first rude beginnings of articulate speech . . . the half-human creature . . . would probably have struck us as a wonderful adept at making significant signs and movements both as to number and variety, but in all probability we should scarcely have been able to notice the already-developing germ of articulalation." For thousands of years articulate sign-making was not so far developed as even to begin to supersede "pantomime". Another inconceivable lapse of time must have been required to transform *homo alalus* into *homo sapiens*—a being possessed of self-consciousness and of conceptual cognition.

I have given, I trust, a faithful sketch of Mr. Romanes's view. Before proceeding to criticise it, I should like to say that I am not among those to whom Mr. Romanes habitually refers as his "opponents". I hold as strongly as he that psychological evolution is continuous, and that the human has developed from the animal mind. But I regard his mode of representing that development as open to serious objections.

Let us first consider Mr. Romanes's definition of that "faculty of

abstraction," which "furnishes the *sine quâ non* . . . to all grades in the development of thought". "The process of abstraction consists in . . . ideally extracting those features of or qualities" (of a perceived complex) "upon which the attention is for the time being directed. . . . The individual man John Smith could not be disintegrated into so much heat, flesh, bone, blood, colour, &c., without ceasing to be a man at all; but this does not hinder that I may ideally abstract his heat (by thinking of him as a corpse), his flesh, bones and blood (by thinking of him as a dissected 'subject'), and so forth." From this it would appear that, in order to direct attention on John Smith's heat, we must think of him as cold. In order to obtain an abstract idea of a quality, we ought on this view, to lose sight of it altogether. This is of course only a casual slip on the part of Mr. Romanes. It is, however, unfortunate that it occurs at a point where precision was specially required.

Mr. Romanes does not give any lucid explanation of the mode in which the generic image makes possible "rudimentary abstraction". The alleged analogy of the 'composite photograph' is in this connexion misleading. It seems also to have helped to mislead Mr. Romanes in another respect. He speaks too unguardedly of the process by which "recepts" are generated as being purely "automatic". He forgets that, in the interaction of ideas, it is the mind which is active and that the metaphor of the sensitive plate is a metaphor only. Moreover the generic image does not, as he suggests, depend merely on the similarity and partial repetition of percepts. It is also controlled by the degree and kind of interest which these percepts have for the subject.

Language, according to Mr. Romanes, is an indispensable factor in conceptual, but not in receptual, generalisation. At the same time he holds that there is such a thing as a language of recepts, and that this language in its higher development prepares the way for the language of concepts. He regards it therefore as of great importance to his general argument to show that "animals present in an unmistakable manner a germ of the sign-making faculty". His treatment of this subject is perplexing. Absence of self-consciousness, according to the view maintained throughout this book, makes it impossible for animals intentionally to combine ideas, because in order to do so they must be aware of their ideas as such. How then can they, without being aware of their ideas as such, *intentionally* communicate these ideas to others. If the argument has any edge at all, it certainly cuts both ways. Nevertheless Mr. Romanes fills many pages in endeavouring to show that animals use "intentional signs". This oversight seems closely connected with another of equal importance. Mr. Romanes never really defines what he means by a "sign". He is liberal with his divisions and subdivisions of signs, but he never tells us what he is dividing. He never explains how in the mind of the

sign-maker the sign is related to the thing signified, so as to supply a criterion by which to distinguish this relation from other relations, *e.g.*, that of means to end. Now it is precisely such a criterion which is needed in order to estimate the value and import of the evidence adduced in this book to prove that animals use language. When Ali Baba opened the mouth of the robbers' cave by uttering the sounds 'Open, Sesame,' these sounds were not language for him at that moment, any more than the blows of his pickaxe would have been language had he hewn his way into it. How then are we to convince ourselves that a dog is using language when he scratches at the door in order to be let out? Is the dog's action more to it than a means to a practical end? If it is more, how much more is it? A bird warns its fellows of danger by emitting a cry. How are we to determine whether the warning cry is a sign of danger in any other sense than a noise made by the approaching enemy might be so? Most of the evidence adduced by Mr. Romanes lies open to this charge of ambiguity. I am very far from denying that animals use language: but I am not sure that Mr. Romanes has offered adequate proof of it.

Let us, however, concede this point. Suppose that animals do possess a rudimentary language. It still remains to be shown that this language is the germ from which human speech has developed. Mr. Romanes does not, I think, place this problem in the right light. He seems to think that the whole difficulty begins with the transition from receptual to conceptual signs. But on his own showing there is also a wide interval between the lower and the higher receptual language. The latter is characterised by the free combination of signs expressing novel combinations of ideas and by the use of truly depictive gestures representing past events and absent objects. No cases are given in which an animal has either used such depictive gestures or has made novel combinations of signs in an intelligent and intelligible manner. How then is the chasm to be bridged which separates the language of animals from even the preconceptual language of human beings? It is not enough to point out that in human beings the higher receptual is preceded by a lower receptual language, unless it be also shown that the higher is an outcome of the lower. It is not legitimate to say *post hoc, ergo propter hoc.* In tracing the transition from receptual to conceptual sign-making, Mr. Romanes does not content himself with showing that one follows the other in time. He accounts for the change by reference to a new condition—self-consciousness. It seems to me that the genesis of preconceptual language, both in the individual and in the race, calls for similar treatment. *Homo alalus* requires to be accounted for no less than *homo sapiens.*

We must now consider Mr. Romanes's explanation of the origin of concepts. "The advent of self-consciousness . . . enables mind not only to know, but to know that it knows; not only to receive

knowledge, but also to conceive it; . . . not only to state a truth, but to state that truth as true." Self-consciousness consists "in paying the same kind of attention to internal or psychical processes as is habitually paid to external or physical processes". "A concept in virtue of having been named by a self-conscious agent is an idea which stands before the mind of that agent as an idea, or as a state of mind which admits of being introspectively contemplated." Now, according to Mr. Romanes, animals as well as men possess self-consciousness. In their case, however, and in that of the child before it attains its third year, the consciousness of self is said to be merely receptual. This, as Mr. Romanes maintains, and as he is logically bound to maintain, is not what is required to explain the genesis of concepts. On the contrary, he explicitly states that the kind of self-consciousness required is not receptual, but conceptual. He therefore assumes a full-blown concept in order to explain the origin of concepts. I should not lay any stress on this *petitio principii*, if it were anywhere shown that the concept of self is attainable by a special process inapplicable to other things. But the concept of self does not appear to be privileged in this way. The process by which Mr. Romanes accounts for its origin is in all its essentials equally applicable to all external things which are capable of being classified and which exist in a variety of changing states.

I am not sure that I quite understand the part played by self-consciousness in Mr. Romanes's theory. He asserts with almost wearisome reiteration that all judgment, in the strict sense of the word, involves a consciousness of ideas and of the act of judging, as states of our mind. Now this does not seem to be true of any judgments excepting those which relate to psychological subject-matter. We seem to be here confronted with the same fallacy that Mill has exploded in bk. i., ch. 5, of his *Logic*. I cannot do better than repeat Mill's words: "In order to believe that gold is yellow I must indeed have the idea of gold and the idea of yellow, and something having reference to those ideas must take place in my mind: but my belief has not reference to the ideas, it has reference to the things". It is true that in order to judge we must be conscious of what in point of fact are ideas; but why should we be conscious that they are ideas? If Mr. Romanes were right, the professional psychologist would be on an immensely higher intellectual level than his fellow-men. For he alone is in the habit of attending to his own mental processes by an "introspective act in the light of self-consciousness". Unhappily this view does not seem to be borne out by facts. Attention to the process of judging rather tends to distract attention from the import of the judgment.

Mr. Romanes formulates his central doctrine in various ways. He seems to me to be specially unfortunate when he asserts that, though we may state a truth apart from an accompanying act of introspection, we cannot apart from such an act state a truth as

true. I may have misapprehended Mr. Romanes's meaning; but, as I understand him, he appears to be accurately wrong. Just in so far as we consider judgment as a mental process, we leave out of count its truth or falsity. The act of judging is the same whether the import of the judgment be a fact or a fiction.

Mr. Romanes treats the distinction between subject and predicate as having no real bearing on the genesis of conceptual cognition. He thinks that, when once a coindative name is intentionally applied, a concept straightway comes into being, and that combination of concepts in the form of judgments follows as a matter of course. He does not seem to be aware that on this point he is at variance with a most competent authority, who has expressly considered the question with the utmost care. Prof. Steinthal, in an early stage of his life-long investigation of the nature and genesis of language, held views similar in this respect to those of Mr. Romanes; but he afterwards found himself compelled to take up an entirely different position. In his masterly work, *Einleitung in die Psychologie und Sprachwissenschaft*, there is to be found a most able and careful investigation of the growth of the judgment, in which subject and predicate are definitely distinguished. This step in the development of thought is according to him of the utmost importance, because through it, and it alone, does it become possible to explicitly apprehend an individual thing as identical with itself throughout the vicissitude of its changing states. In other words, it is only by such judgments that we are enabled to conceive an individual as a subject embracing within its unity a plurality of predicates, which express its varying phases of action and passion. Now if Prof. Steinthal is right, Mr. Romanes is hopelessly wrong. His whole theory is ruined if the concept of self implies the distinction between a subject and its manifold predicates. In any case it is a serious shortcoming on the part of Mr. Romanes to have ignored in this manner some of the best work done by his predecessors, while taking so much account as he does of unimportant work like Prof. Max Müller's and Ludwig Geiger's.

After all this hostile criticism it is right to add that I have derived pleasure and profit from this book, and that I consider it well worth reading. The problem which the author essays to solve is an immensely difficult one, and he has not, I think, attacked it successfully. But the memorable thing is that he has made the attempt. It is to his credit that, in dealing with so slippery a subject-matter, he has attained to such a degree of clearness as to raise in the mind of his reader a series of definite objections instead of a feeling of vague dissatisfaction. It might have been more difficult to find fault with an inferior book.

G. F. Stout.

Physical Realism: Being an Analytical Philosophy from the Physical Objects of Science to the Physical Data of Sense. By THOMAS CASE, M.A., Fellow and Senior Tutor, Corpus Christi College, &c. London: Longmans, Green & Co., 1888. Pp. 387.

Mr. Case's Essay, if it does not prove, as it is meant to do, that the whole of modern philosophy, with the exception of "natural philosophy" has been an aberration, is nevertheless a contribution to philosophical discussion from which much can be learnt. In the first place, the author gives a clear and correct view of the history of modern idealism. The Berkeleyan theory of the external world, he shows, is the logical result of the development from Descartes through Locke, and the Cartesian starting-point, again, is that which was logically necessary after the development of the theory of the soul and of perception by ancient philosophy. The admissions implied in this view are not less important because the author holds them to constitute an argument that the starting-point of modern philosophy, so far as it was subjective, was wholly wrong. Nor is Mr. Case in detail so undiscriminating an opponent of idealism as might be inferred from his general position. If, in his view, we directly perceive a "physical" world, we do not directly perceive an "external" world. The appearance of externality in the object of immediate perception, according to the theory of "Physical Realism," is an illusion. To take up this position is, of course, to disclaim all appeal to the "evidence of consciousness" apart from scientific, if not also philosophical, interpretation. The name the author gives to his doctrine might, indeed, be expanded into 'Realism on the basis of Physical Science' (and not merely realism as implied in scientific assumptions); the doctrine he opposes being defined correspondingly as 'Idealism on the basis of Psychology': though, having once admitted the relevance of physiology, for example, to the question of perception, he does not find it possible entirely to exclude psychological considerations. The second great merit of his treatment, after the historical view, is the definiteness with which he puts the philosophical question whether physical science with its "intelligible world" of invisible corpuscles and vibrations can be rationally explained by a doctrine for which the "being" of external things is simply "being perceived".

The author, like his realistic predecessors of the common-sense school, finds the origin of modern idealism in a single questionable assumption of Descartes,—namely, that we perceive immediately 'ideas' which are produced by the action of the object on the soul, and that we only mediately infer the object. Once accept this theory of 'ideas,' and there is no logical escape from absolute idealism. "If all the data of a man's knowledge were his soul and ideas, he could know nothing but other souls and ideas." Yet the common-sense school was

wrong in maintaining that what we perceive immediately is the external object. The object we immediately perceive is "physical" but "internal". It is some part of the nervous system as affected by modifications produced from without. That which is perceived being physical and not psychical, it is allowable to infer other physical, and not merely psychical, objects from the object immediately perceived. From the modifications of the nervous system we infer their external causes; and in ordinary perception inferences are so conjoined with direct perceptions that the illusory appearance arises of a direct perception of external objects. This doctrine of perception to which we have to return in order to escape from idealism is that of the ancient Atomists. The Atomists did not, indeed, present their doctrine in a quite unexceptionable manner, and of course it had scientific imperfections; they supposed external things, for example, to act on the organs of hearing, sight and temperature by emissions instead of by vibrations; but they had hold of the essential truths that the "immediate object" is "not the thing at a distance, but the result of the thing on the organs of sense," and that, "though internal and representative," it "is neither immaterial nor psychical: it is a physical object". The atomistic doctrine of perception is realistic, but not necessarily materialistic, and is compatible with "theological," though not with "psychological," idealism. Matter may have an existence that is not spiritual, and may yet have been created by a spirit. For the theory of perception, the defect of materialism is neglect of "the latent factor in all thinking, the soul". "The thinking subject is man, thinking partly by his body, that is, his nervous cerebral system, and partly by a latent factor, his soul, cooperating, as by the composition of forces, in every operation."

At the ground of this theory of perception there is a psychologically justifiable conviction of the special intimacy of the consciousness of the body. As a proof that "the body is a patent factor of the thinking subject," the author urges, for example, the facts of organic sensation (pp. 110-12, 134-5). These facts, however, are not sufficient to support his theory. When it is considered that the data of sense that we assign to the body are just as capable of psychological expression as those that we assign to the external world, the whole argument in favour of realism from the knowledge we have of the body loses its force. But let us examine the atomistic doctrine more directly. According to the author, we see "the extended in the optic nerves," we feel "the extended in the tactile nerves" (p. 250). "The hot felt is the tactile nerves heated, the white seen is the optic nerves so coloured" (p. 24). "It is true that red refuses to appear to our senses as a motion representing the external motion which produces it. But the cause of this fact is to be found in the construction of the optic nerve, which, when acted on by a certain imperceptible motion of ether,

receives a sensible colour apparently unlike motion, just as oxygen and hydrogen in certain proportions, when acted on by electricity, become water. In the same way, when a wheel rotates too quickly, the sensible effect ceases to be a motion, because the nerves are insusceptible of taking on so rapid a motion in sense. The sensible effect is similar or dissimilar to the external object, so far as the nervous system is capable or incapable of being affected similarly to the external object" (p. 31). The meaning of these assertions, if we are to retain the atomistic theory, must be that when we perceive clearly the motion of the corpuscles of the nervous substance, we have a perception of extension or motion, but that when the vibrations impressed on it by the ether are such that we can only perceive them confusedly, then the confused perception of the vibrations is what we call a perception of a heated or coloured surface. Now the mere consideration that a sensation of colour or heat, whatever may be its cause, is psychologically *sui generis*, shows at once the inadequacy of atomism, by itself, to explain a perception involving heat or colour as one of its sensational elements. With the beginning of psychological consideration the 'idea' or 'phantasm,' in its distinction from configurations and vibrations of material particles, in some form returns. Even in Mr. Case's own theory it returns in a vague form when he says that man is partly "psychical," and more clearly when he says that "the hot felt and the white seen . . . are apprehended by internal sensations of touch and vision" (p. 25). For of course the distinction, made immediately afterwards, of the sensation from its object does not take away the effect of the admission of an internal psychical process. And these are not admissions that are compelled by the author's "theological idealism" and that would disappear from a more consequent "atomism". In his theory of perception, Mr. Case is as consequent an atomist as it is possible to be. Any admissions he makes are extorted from him by the facts. Now it is his own contention that if the "psychical" apparition of the Cartesian or Lockian idea is once permitted to enter, sooner or later the conclusions of Berkeley and Hume must logically follow. The "primary" qualities of matter, under the Berkeleyan analysis, go the way of the "secondary" qualities.

Idealism, however, when formulated as a philosophical doctrine, has to interpret scientific knowledge as well as ordinary perception. Whatever may be its plausibility from the subjective side, the proof that it cannot do this would be, Mr. Case contends, a *reductio ad absurdum*. It is this *reductio ad absurdum* that he undertakes to give. "Man as a natural philosopher," he says, "knows things in themselves which are not phenomena, when he knows imperceptible particles." The assertions of physicists, that atoms have a real and not merely a hypothetical existence, are, for philosophical idealism, meaningless. But the accepted

results of physical science have a higher degree of certainty than any conclusions that can be drawn from the mere subjective data of psychology. The psychological method in philosophy, therefore, since that leads to idealism, is in need of revision.

Mr. Case, however, has himself tried to make this revision; and, as we have seen, the attempt only brings him back to a point where the precise assumptions that have led historically (and, as he admits, logically) to idealism force themselves again upon the thinker. It is clear that a solution of the difficulty is not to be found in accepting the scientific view, any more than the ordinary unscientific view of the object of perception without an examination of it in the light of philosophical theory. Such an examination would remove the difficulty put by Mr. Case. The assertion that atoms are not merely assumed hypothetically in order to facilitate calculation, but have a real physical existence, would be found to mean, philosophically, that the atom is an object of possible though not of actual perception; that under certain conditions, ultimately definable in psychological terms, we should detect certain small, hard bodies having some kind of vibratory motion, which our present sense-organs and microscopes do not enable us to perceive. This, again, means that certain sensations and ideas would follow one another in a certain connexion. What the realist has to show in order to prove his position is that "scientific objects" cannot be wholly resolved into "possible phenomena". Mr. Case, as he tells us (p. 380), has written a chapter, which is in print, to show this at length. When it is published, we shall be able to judge how far he has been more successful than other realists.

In detail, Mr. Case objects against the procedure of English philosophers, that in psychology they make realistic assumptions that are inconsistent with their idealism. This objection is, of course, answered by the distinction that is clearly drawn in recent, though not in earlier, experiential philosophy between psychology (as pure science) and theory of knowledge. As urged by Mr. Case, it does not indicate any leaning to Neo-Kantianism. His chapters on Locke and Kant have a decidedly experiential tendency.

So far, we have not found that Mr. Case establishes anything against the idealistic position. Yet it must be conceded in the end that his arguments do really indicate a weakness of idealism as it is sometimes presented. As expounded by Mill, for instance, in the *Examination of Hamilton*, it is a theory of knowledge with a psychological basis, and nothing more. But when the objects of perception and the objects of science have all been resolved into phenomena, actual or possible, philosophy has further questions to ask. Now science, when it is viewed apart from idealistic theory of knowledge, appears to have answers to give to some of the further questions of philosophy; while philosophy, by stopping short at theory of knowledge as existing in

the individual or even in the social mind, appears to destroy rather than to interpret the answers of science. In this state of things, a not unusual combination of positions is to admit the force of the idealistic argument, to go on effectively thinking of the objects of science as existing independently of all minds and producing them, and, controversially, to avoid all difficulties by a confession of agnosticism. Mr. Case is, as he says of Berkeley, "too philosophical to be an agnostic"; but he does not see that only philosophy, and not special science by itself, can answer questions as to the nature of reality; that, in short, it is only from the philosophical point of view that an ontology is attainable. To become ontology, philosophy must go beyond the theory of our knowledge of phenomena; but the example of Berkeley proves that there is nothing inconsistent with English philosophical method in the attempt to answer ontological questions. Hume's Scepticism and Kant's Criticism have, indeed, made it impossible to continue affirming ontological propositions in the old "dogmatic" manner; but they have not made ontology itself impossible. Hegelianism, for example, whether in its original or in its renewed form, if it is to be rejected, must be rejected not simply because it is "ontological," or on account of its consequences, but because, as a philosophy, it is wrong in method or in principle. Now that the Hegelian philosophy no longer gives satisfaction even to its own adherents, it remains for a philosophy that is psychological in method and experiential in principle to prove its confidence in itself by going back to the perennial questions of ontology. This is the moral of Mr. Case's book.

THOMAS WHITTAKER.

Principles and Practice of Morality; or, Ethical Principles Discussed and Applied. By EZEKIEL GILMAN ROBINSON, D.D., LL.D., President of Brown University. Boston: Silver, Rogers & Co., 1888. Pp. xii., 252.

Moral Philosophy; or, Ethics and Natural Law. By JOSEPH RICKABY, S.J. ("Manuals of Catholic Philosophy".) London: Longmans, Green & Co., 1888. Pp. viii., 376.

These books contain the substance of lectures delivered respectively by a Protestant and by a Catholic theologian to their college-classes, and are intended to facilitate the systematic teaching of Ethics under like conditions. At least the professor of the Society of Jesus evidently seeks no audience without the pale of the Church which still looks up with peculiar reverence to "the teaching of St. Thomas"; and the American divine, whatever his secret aspirations, can hardly doubt that the natural destiny of his book will be fulfilled when it becomes the well-thumbed manual of the aspirant to the office of the Protestant

Christian ministry. The attitude assumed by these two writers on ethical problems is probably fairly representative of the spirit and tendencies of the halves of the Christian world to which they severally belong. Father Rickaby, with his Aristotelian and Scholastic training, is always definite and clear, distrustful of sentiment, with an answer ready for every assailant. Dr. Robinson, in his ambition to be comprehensive, is apt to disregard niceties of thought and expression, but at the same time has a truer, because broader, view of the philosophical aspect of his subject. In his anxiety, however, to be fair to many ways of thinking, he may possibly have overstepped the limits of the ordinary student's power of receptivity and assimilation. To reverse the Queen's hint to Polonius—'Less matter, with more art,' would be no misplaced counsel in his case.

Passing to details, and taking the American text-book first, the right note is struck in the following passage of the Preface:

"But it should not be forgotten that there can be no strict science of morals in the same sense of the word science as there can be a science of physiology, or even of psychology. Strict science fulfils its whole task in simply telling what is. A full account of morals must not only tell what is, which is all that science can do, but, calling philosophy to its aid, it must tell us what ought to be, and why it ought to be. In explaining and justifying the 'ought,' we must have recourse to some of the profoundest principles of which philosophy has any knowledge. A full treatment of morals, therefore, requires that in dealing with its facts our method should be scientific, and in treating of the principles which the facts imply and involve our method should be philosophical."

It cannot, however, be said that the distinction here so well drawn between the scientific and philosophical methods is sufficiently adhered to in the body of the book. The mapping out is as follows: Part i. Essential Principles of Ethics. Part ii. Theoretic Morality: (1) The Moral Faculty or Conscience; (2) Moral Law; (3) The Will; (4) Virtue and Theories of Virtue. Part iii. Practical Morality. Here are all the familiar topics. If, however, the physics is to precede the metaphysics of Morals, one cannot justify a treatment that leaves over a discussion of the functions of the Will until Moral Law has been fully discussed; the consideration of Will, moreover, being interpolated between Moral Law and the Theories of Virtue. Offences against obvious method are not infrequent in the sub-sections likewise.

The constructive part of the book commences with an account of the Moral Faculty. Here the writer takes note of what he deems a grave confusion between Conscience and Moral Consciousness. Our author would restrict the former term to the power of self-judgment, accompanied by self-approval or self-disapproval, leaving the latter term to cover the entire sphere of moral judgments and sentiments whether of personal or alien reference. There may be a convenience in taking the distinction,

but the difference in principle alleged in support of it is not made sufficiently apparent. "In judging others," says Dr. Robinson, "the judgment is consciously pronounced with a disposition to approve or condemn, as the case may require. In judging self, the judgment is both consciously pronounced, and actually, though involuntarily, executed in the accompanying emotions" (p. 55). Is the difference here alleged other than one of intensity, a difference that may even on occasion be reversed?

The chapter on the Idea and Definition of Moral Law is in some parts lax. Thus we are told that "in matter, law is the rule according to which force acts by mechanical and chemical necessity; in mind or soul, law denotes the rule according to which, from motives derived from the requirements of his moral nature, a rational being ought always to act" (p. 86.) The writer has not really in view, what the words imply, barely psychological laws, but rather the dictates of reason as apprehended by a free intelligence. In the chapter on the Sanction of Morals the discretion of silence would have been the better part of valour if the reconciliation of vicarious suffering with the demands of "strict justice" could only be effected by the pleading that "every member of a body, by virtue of his membership, is justly a participator alike in the innocence and the guilt, and so in the rewards and penalties, of the whole" (p. 102).

The author's position on the vexed question of Free-will is sober enough, though the importance of a decision in favour of Libertarianism seems singularly reduced by the statement made in reply to a Determinist objector—"If will express the whole nature, every power working in harmony with every other, then the will is not necessitated, whether its action be virtuous or vicious" (p. 136).

The chapter on the Ultimate Ground of Moral Obligation is penned in a very impartial spirit, the writer's own view being that the source of duty must be looked for in a common nature derived from the "One Original and Father of All," a statement, however, that is capable of adaptation to widely different systems of Ethics. On p. 156 there is a strange slip, where Prof. Sidgwick is cited in the roll of moralists "who make quality rather than quantity of happiness to be the end".

In the practical department, Dr. Robinson follows the time-honoured division of Duty into Duties to God, Duties to One's Self, and Duties to Fellow-beings. There is nothing calling for special remark in this section, where, it need hardly be said, little disposition is shown to depart widely from accepted and traditional opinion.

Despite a tendency to verbosity, in the dearth of ethical manuals these lectures by the President of Brown University might not be found ill-adapted for academic use at the present time.

With Father Rickaby the terms Theoretical and Practical Morality are replaced by those of Ethics and Natural Law, "the principal business" of the former being "to determine what moral obligation is, or to fix what logicians call the *comprehension* of the idea *I ought*," while "it belongs to Natural Law to consider what things are morally obligatory, or to determine the *extension* of that idea *I ought*". The first five chapters of Part i. are in effect an illustrated and glorified edition of Aristotle's *Ethics*. Happiness is the moral end; but then "*Happiness is the act of the spontaneous understanding contemplating for contemplation's sake*". This is not the end of vulgar Hedonism, nor is it an end commonly realisable under the conditions of our short life-term; accordingly our teacher cannot journey far without passing the limits of terrestrial existence. The religious keynote of this Catholic Ethics is thus struck without delay, and one is always hearing the fundamental tone. Dr. Robinson bids us clearly separate our science and our philosophy, but Father Rickaby knows no science of Ethics that is not a philosophy of Ethics, and no philosophy of Ethics that is not a theology of Ethics. No wonder then that he has strong language for "Utilitarianism" or any form of mere mundane Morality. "Altruism, and Utilitarianism with it, ignore the interior life of the soul, and substitute human society, that is, ultimately, the democratic State, in place of God" (p. 182). It is quite in accordance with this view of the matter that the Natural and Moral Law are pronounced "immutable". Thus we are told, "pride is not made for man, nor fornication, nor lying, nor polygamy," and the appeal is made to mathematics: as triangles *quâ* triangles must have three angles equal to two right, so man *quâ* man has his invariable constants. The only evolution possible for him is "psychological" not "ontological". Yes; but who seeks to dispute that? Even that monster the "dogmatic Atheist" has a firm belief in the ultimately fixed "nature of things," and is convinced that there is one, and only one, perfection of man. With objects of the pure intellect there is only one truth possible, whether the cogniser be tiro or proficient, the entities being ideal; but where the matter is real and is subject to continual modification, as in the relations of human beings in society, not only moral notions alter but "right" moral notions as well, for man is no definitely-circumscribed entity like a triangle, but is constituted man through his physical and social relations.

Practical Ethics or "Natural Law" occupies a larger space in the Jesuit teacher's text-book than in that of the American divine. The topics treated of are—Duties to God, Duty of Preserving Life, Speaking the Truth, Charity, Rights, Marriage, Property, The State; on all which the father gives no uncertain sound. This second part of the book seems inferior in many respects to the first part. The reasonings in the former half are always acute and often convincing; but unjustified dogmatism, bitter declama-

tion, even childish credulity, detract from the worth of the second portion. The following is a strange outcome of immutable and eternal Ethics:—

"There is no shadow of evil resting on the practice of causing pain to brutes *in sport*, where the pain is not the sport itself, but an incidental concomitant of it. Much more in all that conduces to the sustenance of man may we give pain to brutes, as also in the pursuit of science. Nor are we bound to any anxious care to make this pain as little as may be" (p. 250).

This passage is characteristic of the general tone of the writer, to whom "pain" seems altogether to be a very small matter, man being, of course, *animal rationale*, with a very marked stress on the adjective.

In the final chapter, on Liberty of Opinion, the writer leaves us in no doubt what we might expect if our Jesuit preceptors were not confined to formulating their views in manuals of Moral Philosophy.

"To pull down the idea of God among a nation of theists, whether by the wiles of a courtly Professor at a University, or by the tub-thumping blasphemy of an itinerant lecturer, is to injure the State" (p. 364); "Such teachings as those which we would have the State to suppress, *e.g.*, *An oath is a folly: There is no law of purity: There is no harm in doing anything that does not annoy your neighbour*, are not the teachings of men sincerely convinced: they deserve no respect, consideration or tenderness on that score. We do not say that the teachers of these monstrosities are not convinced, but that they are not honestly and conscientiously convinced: they have blinded themselves, and become the guilty authors of their own delusion" (p. 368).

This manual is, of course, intended for Catholic use, and probably will be accepted in the quarters for which it is intended. The non-Catholic teacher, accustomed to read and think for himself, will also find many aids to reflection, but he will be scarcely desirous of naming it as a text-book for his classes.

W. C. COUPLAND.

Psychologie de l'Attention. Par TH. RIBOT, Professeur au Collège de France, &c. Paris: Félix Alcan, 1889. Pp. 182.

Prof. Ribot has undoubtedly struck out a new line by his series of psychological monographs. And there is a good deal to be said just now for such a separate treatment of particular branches of the subject. As the author has shown us in his interesting little volumes on Memory, Personality and Will, the recent researches of physiologists and pathologists have served to throw a new and valuable light on special portions of the psychological field; and it is just as well that the psychological student should be put in possession of the results of this inquiry as soon as possible. This

is the special aim and the *raison d'être* of these volumes. At the same time one looks in a trained psychologist like M. Ribot, who is a student of the new and exacter methods of German psychochology, for a clear discrimination of the psychological from the physiological problem. That this discrimination was not always as clear as it might have been in the earlier volumes did not, perhaps, greatly matter, since these were avowedly occupied with the pathological side of the phenomena discussed. But in the present volume Prof. Ribot distinctly declares that he is going to treat of the *psychology* of Attention, and the reader may therefore be forgiven for feeling a little disappointed that the volume is for the most part confined to an analysis of its physiological conditions. Nobody will say that these are unimportant, but it is only too easy to give an exaggerated psychological value to them. And this, it will probably seem to many readers, M. Ribot is throughout disposed to do. He appears to think that the main problem of Attention is disposed of when it is shown that this psychical phonomenon is accompanied by the excitation and by the inhibition of movement. The point of view from which he looks at Attention is pretty clearly indicated in his insistence on the fact that Voluntary as distinguished from Spontaneous (non-voluntary) Attention is "artificial" and even "abnormal". The meaning of this seems to be that voluntary attention only manifests itself when the conditions of civilised life are present, and, since it always involves a peculiar drain on the nervous energy, is not capable of being long sustained at any one time. Here, in his antagonism to introspective psychology, which by the necessary conditions of its inquiry attaches most value to the developed human consciousness, M. Ribot appears to have been driven to the opposite extreme. For him the precise function of attention in the complex processes of our mental life, its relation to retention, to the association of psychical elements, its action in the operations of thought,—all is passed over as though it were of little account. What is of supreme importance is that attention on its physiological side is always a motor process, and that in its earliest and "natural" form it is bound up with the necessary conditions of life.

While, however, the student may thus feel disappointed at the meagre psychological outcome of this psychological study, he will be certain to find it like all the author's writings freshly conceived and vigorously and clearly expressed. It opens with an introduction in which an attempt is made to define Attention. Attention, we are told, is always the substitution in consciousness of a unity for a plurality: it is a tendency to monoïdeism. Ordinary consciousness is characterised by a multitude of elements and constant changes: attention arrests this flux, and introduces momentary fixity. But feeling also, *e.g.*, toothache, can effect such a momentary unity of consciousness, and this is not attention, for this last is intellectual and directed to an object, that is,

as it seems, a presentation. After this M. Ribot takes up the natural form, Spontaneous Attention, and shows in an interesting way how it depends on emotional states (*états affectifs*). The motor concomitants are then described. This account of spontaneous attention is followed by a chapter on Voluntary Attention. Here, as in the earlier form, the law of dependence on feeling holds good. This higher form becomes possible in so far as we "render attractive by artifice what is not so by nature, or give an artificial interest to things which have not a natural interest". Here the author brings out in an interesting manner the fact that voluntary attention, as seen in the power of prolonged occupation or work, is confined to civilised man, and is a product of the social and educative influences which constitute civilisation. The distinguishing physiological characteristic of voluntary attention is Inhibition, and thus the author is naturally led to sum up some of the results of recent investigation into this difficult subject. In connexion with this inquiry into the physiological concomitants, he discusses, though rather hurriedly, the question whether attention to all intellectual objects, presentations and representations is effected, as Dr. Bain affirms, by means of a control of the muscular element in these. M. Ribot decides that this is the mechanism at work in all cases, but the question is a complicated one, and a fuller reference to views on the other side, as those of Prof. Wundt, would not have been out of place here. To this account of Voluntary Attention is added a chapter on the pathology of the subject. The essence of Attention being a tendency to "monoïdeism," we may have (1) a hypertrophy of Attention where this unity of mental content becomes absolute, or (2) an atrophy of Attention where the flux of changing states is uninterrupted. The first covers a number of cases from *idées fixes* up to ecstasy. The second, too, includes a variety of phenomena, from the inability to fix attention in states of exhaustion up to the turmoil of ideas in madness. This chapter is, as might be anticipated, particularly interesting.

There is one part of the subject which M. Ribot seems to have left in a certain obscurity, *viz.*, the relation of Feeling to Attention. On the one hand, as we have seen, he insists with particular emphasis on the general dependence of attention on feeling. On the other hand he refuses to call the complete occupation of consciousness by toothache a case of attention at all, and in dealing with *idées fixes* he excludes from view those due to emotional excitement as not illustrating his point, *viz.*, preternatural intensification of attention. This way of delimitating the area of attention strikes one as somewhat artificial. It is a little difficult to understand what is meant by saying that an all-compelling pain like toothache excludes attention. Are not our minds said to be engrossed with the pain, and would not this preoccupation become at once evident if our attention happened for a moment to be directed to something else? Similarly, it

may be said that to distinguish between emotionally sustained and other *idées fixes* is arbitrary. In every case of *idée fixe* (*e.g.*, the *Grübelsucht* or preoccupation with some abstract problem referred to by the author), one can see that the persistence of the idea is due to an emotional cause, as here a feeling of anxious or morbid inquisitiveness. And it is obvious that in the case of the most inflammatory *idées fixes* the attention is engaged. Indeed, may we not say that in this case attention is raised to its highest power through the exceptional intensity of its stimulus, *viz.*, feeling? What appears to make M. Ribot hesitate to bring this phenomenon under the head of Attention is, of course, the fact that here attention is, so to speak, taken by storm. But this is only a special case of what is common to all non-voluntary attention, *viz.*, the determination of activity towards a particular mental content by an element (or concomitant) of this content, and not by an extraneous psychical stimulus, as in the case of voluntary attention. Another reason for the author's excluding these phenomena from the category of Attention is no doubt his limitation of this last to intellectual states. He does not, indeed, hesitate to call attention itself an intellectual state. But even this is not inconsistent with attention to toothache; for we may hold with Mr. Ward, whom, in confining attention to intellectual objects (presentations), M. Ribot, unknowingly as it would seem, follows, that even in such states of emotional agitation there is an element of presentation. Or we may perhaps distinguish two kinds of attention, the one directed to presentation as such and the other to feeling as such, though, of course, in its connexion with, and to some extent through, the medium of the presentative element to which it is attached. Perhaps M. Ribot may think all this kind of criticism rather subtle, but it may at least serve to suggest what a number of difficult psychological questions group themselves about the subject of Attention.

JAMES SULLY.

Moralphilosophie gemeinverständlich dargestellt. Von GEORG VON GIŻYCKI. Leipzig: Wilhelm Friedrich. Pp. viii., 546.

That a transcendent or mystical character is natural to German thought has perhaps been too hastily assumed. It is undeniable that the most extraordinary German performances in Philosophy have hitherto been of such a kind; but, if when these were achieved the nation had not yet reached the maturity of its powers, if its practical energies had not yet found a sufficient career, a very different kind of speculation may seem good to it hereafter. Some have supposed that the strong feelings of the Germans inclined them to mysticism; but this is often the case with a boy whose mind afterwards takes another cast. The

stronger a man's feelings, indeed, the more likely is he, under the instruction of experience and under the pressure of business, to turn at last to matter-of-fact, and to covet the exactest and fullest knowledge of it, as the only guide to the satisfaction of his ardent hopes and the only refuge from error and remorse. It may be the same with a nation. Hence the prodigious activity of the Germans in every branch of physical, philological, historical inquiry, in the whole region of matter-of-fact, and their achievements there; whereas in metaphysics, in the great age of their philosophers, they were, to tell the truth, far more enthusiastic than successful. It is the glory of the Germans, said Matthew Arnold, to have sought out the facts upon every subject. We see that even in Psychology they have applied the method of observation and experiment with far greater elaboration and thoroughness than our own thinkers, who may be said to have originated it. And it seems probable that in the whole region of philosophical reflection they will, in spite of tradition and the prestige of shining names, entirely alter what are still considered to be their characteristic habits of thought.

The above work may be regarded as one among many signs of such a change. It is in fact an exposition and defence of Utilitarianism, with such modifications and expansions of that doctrine as seem to the author to be necessary to its acceptance and influence. An English reader cannot help feeling some complacency in the use Prof. v. Giżycki makes of the English moralists. He has studied the whole series of those sensible and observant writers, by one or other of whom almost every possible aspect of ethical philosophy has been presented, and he cites from time to time almost every well-known name from Hobbes to Sidgwick and Leslie Stephen. Like the greater part of these his predecessors, too, he addresses not merely the learned, but every serious reader. Moral philosophy, he says, "is a science for everybody". Indeed, if it concerns one more than another, it must be the man-of-the-world rather than the student or professor: the man-of-the-world, by whose acceptance or neglect every moral doctrine must at last become fruitful or futile. To forget this is the Nemesis of the domineering scholarch and of the scholastic coterie, whose capricious inventions for the guidance of mankind require more than human ingenuity to explain and still more to make good the explanation,—heard at first with eagerness by docile youth and often repeated with the unconscious emphasis of half-conviction, but making no impression upon the world and dying away at last in faint reverberations along the roofs of innumerable sleepy class-rooms.

We have here a work on the first principles of Moral Philosophy: it does not attempt to pursue the subject far into its ramifications, nor to apply it to casuistry. After explaining the grounds of the doctrine that the criterion of right conduct is its

tendency to promote the general good, welfare or happiness, the author goes on to meet the various objections that have been raised against it. He discusses in a practical and convincing way the positions that the notion of Happiness wants exactness, that we have not time to calculate the consequences of our actions, that we are liable to all sorts of bias and error in making such calculations, with many others, and finds that none of them is really discouraging. To the proposal to substitute for Happiness the physical welfare of the human race as the criterion of right and the end of endeavour, on the ground that such is the aim of Nature, he replies that Nature, properly speaking, has no aim, and therefore we cannot borrow one from her. This portion of the work, comprising chaps. i., ii., closes with an examination and refutation of the pessimistic doctrine, that there can be no happiness in the world worth striving after.

Having shown that the Greatest Happiness is the criterion of right conduct, he begins in chap. iii. to discuss the end or object of life to the individual. And first he takes up the theory of Egoism, and endeavours to prove that Self-interest is not an end that can be substituted for the Greatest Happiness as the criterion of right, because it is intrinsically unreasonable, and in fact a man by no means always follows it but often acts for public ends or from sympathy. Neither is Self-interest, he says, a motive that can be trusted to shape our conduct according to Right as determined by the criterion of furthering the Greatest Happiness; since the dictates of Self-love, even when most enlightened, do not always coincide with such a rule of Right. None of the sanctions, physical, legal or social, can be relied upon always to turn us from by-ends into the straight way: they may all misdirect us by making it our interest to do wrong. Only the moral sanction, the peace of mind that comes of devoting ourselves to the welfare of mankind, will always lead us aright; but this may not compensate the evil results of right conduct to the individual. Self-interest, then, cannot be the moral criterion nor the end: Morality involves self-sacrifice.

Nevertheless, whilst regarding the Greatest Happiness as the criterion of right conduct, our author does not consider it to be the best end for the individual to set before himself, nor the best motive to rely upon for securing right conduct. Such a motive, he says, is too weak; and he prefers the view of Dr. Coit (MIND No. 43), that whilst the Greatest Happiness is the criterion of right conduct, the true End for the individual is the sense of having done his best to attain that Happiness, and the consequent peace of a conscience void of reproach. For this is all he can be sure of attaining. After his utmost efforts to further the general welfare, want of power, miscalculation or physical accident may disappoint his plans, and leave him with the bitterness of failure. But in such case he may still have succeeded if his object was to do his best. To do our best, then, is the more attainable end, and therefore the more encouraging: it promises

an inward joy that neither the malice of evil men nor the prospect of death can deprive us of. And to such success, says Prof. v. Giżycki, a man has a reasonable claim, since he cannot be expected to live entirely for the sake of others.

This section seems to me the least clearly conceived in the whole work. Our author, in proposing the consciousness of doing right as the moral End, cannot really mean to make it a substitute for the general good as the End, as we may infer both from some occasional expressions and from the form of imperative in which he embodies it: "Seek peace of conscience in devoting yourself to the welfare of mankind". For to devote ourselves to the welfare of mankind is to make that our End; so that peace of conscience is only a concomitant of that mode of activity, and only a part (our own peace, a very small part) of the total good. What then is gained by thus limiting our aim? For my own part, I do not greatly value any of these cunning maxims of moral marksmanship that direct us to aim at one thing in the hope of hitting another. We cannot expect to allow for all the winds of accident in these gusty days of our pilgrimage. Straightforward! is itself no bad ethics. Why diplomatise with fate, or try to circumvent the *Summum Bonum?*

Prof. v. Giżycki's reasons for this are not convincing. In recommending peace of conscience as the End, because it is less likely to be missed, and therefore less likely to occasion disappointment, there seems an undesirable lack of the Stoical temper, which is as necessary to morals as the Epicurean reasonableness. Certainly the Utilitarian cannot at present hope to see the *Summum Bonum* in its full accomplishment: he must of course, for the most part, live by faith, like other good people. But neither must we overrate the amount of happiness that peace of mind confers. No doubt it is the greatest consolation we have when our efforts fail, but consolation is the most we can expect of it: it will hardly amount to joy if failure is disastrous. There must still remain the distress of sympathy with those whose rescue we have pursued in vain, perhaps indignation at those who have frustrated our efforts, with resentment of the shortness of our own resources and of the random courses of the world.

It is true, as the author says, that man has a deep, inward yearning for some kind of happiness, and that the individual has his rights. But will a quiet conscience appease that yearning, or satisfy the individual's claim as a citizen of the world? Part of that yearning is sensual, and this must have its satisfaction in kind according to any tolerable system of morals. And among the individual's claims I reckon this—not to be always engrossed with the Greatest Happiness, but to have a little moral holiday, when he may amuse himself with anything that is harmless. Now such claims as these (to be determined, of course, in their general scope and nature with reference to the common good) are as necessary as a quiet conscience to the great majority of man-

kind; and they harmonise well with the universal end, because they have the same great complex, spontaneous and unexclusive character. One kind of feeling cannot be made the sole end of our manifold nature: a personal end can only be a part of the universal and an epitome of it. Moral culture alone for the sake of Happiness must at last (could it be endured so long) dry up the sources of Happiness. But let us hope that men will not so engross themselves with the warfare of life as to forget to prepare a festal robe against the day of triumph.

On the whole, to make peace of conscience the individual's aim seems to me too much like a compromise between Utilitarianism and all sorts of pædagogic ethics. A great merit of Utilitarianism is to get rid of the authoritative, didactic, superior tone inseparable from most other systems, and to be instead a science of the co-ordination of men's natural desires and impulses, by whose light they may live, as decent people really wish to live, with the least possible collision and waste of effort. But here we find another attempt to impose upon mankind an End that is only a small part of their real End. How can philosophers have the audacity to set out upon such enterprises? 'Has nature been so niggardly to man as to make him barely two-legged,' and leave him without an object in life? Or do they expect to argue him out of his five senses?

Conscience, certainly, is one of our natural impulses; but it is matter of common experience that, in seeking strength to live, too frequent recourse may be had to Conscience; and though much happiness depends upon its satisfaction, there is nothing so hard to satisfy, especially if much indulged. For then, like other faculties, it is liable to morbid growths, and scrupulosity of Conscience is good neither for a man nor his neighbours. If peace of Conscience were made the individual's sole end, I believe it would be as little attainable as the Greatest Happiness, and much less common than it is now. Is it wise to lay all the stress of life upon one moral power (as Kant did) and neglect the rest? For in fact we see that men are made good and useful citizens not merely by force of Conscience, but also by other feelings, many of them natural allies of Conscience, as by love and friendship, by honour and the hope of fame, nay, even by emulation and pique, by pride and vanity.[1] The doctrine that explains the acquisition of our bodily organs by their utility applies also to those impulses of the soul: they are the goads of nature continually pricking us here and there and driving us blindly along; but none of them can be safely blunted. It is not for the philosoper to bid us dispense with any of them, but to show us the use and meaning of them all. They all have their place, and, according to measure, their satisfaction is good. As

[1] Upon this matter much may be learnt from Mandeville, if we read to interpret and not merely to refute him. To refute a philosopher is the worst use we can put him to.

to regard for the Greatest Happiness, though (as Prof. v. Giżycki says) generally a weak, it is often a real, power, and by education, political institutions and other means of improving character (an essential part of practical philosophy little studied) it may be indefinitely strengthened. And the very contemplation of the universal End, the habit of keeping before our eyes the direct consequences of our actions in the pleasure and pain of others, is morally improving.

In the fourth chapter, on Duty, we find the conception of Right, the relations of Feeling and Reason to Moral Philosophy, and the nature of Moral Laws discussed in a way that, again, may not be satisfactory to some Utilitarians. By Right and Wrong our author understands whatever does or does not agree with an acknowledged rule of conduct. Such rules are collected, he says, by reasoning; but the facts from which they are drawn are a particular class of feelings, the moral feelings, namely, of approval and disapproval, honour and contempt, peace and remorse of conscience; and these feelings are the ultimate grounds of ethics. Now, that such feelings are at present the most important of all to moral action is, of course, admitted; they are also essential elements in our judgment of the character of a moral agent. But are they the true foundations of Moral Philosophy? I am surprised to find a Utilitarian affirming it. True that our moral feeling may generally be interpreted as tending to secure the Greatest Happiness; and this is one reason for assuming the Greatest Happiness to be the End of human action; but it is not the only, nor the ultimate, reason. As I understand the matter, we assume the Greatest Happiness to be the End, because we find, in fact, that the Happiness of ourselves and others is for most of our life the direct object of desire, and the indirect object of many other feelings besides the specially moral, such as our concern for health or wealth, which sometimes are immediate ends. (I omit the consideration of what may be called external indices of moral conduct, such as the physical and biological of Mr. Spencer.) As for the specially moral feelings, they at first present themselves along with the great social and political machinery (necessary, no doubt) for frustrating our spontaneous desires; and it is only by some subtlety and adroitness of interpretation that this machinery, and with it the moral feelings, can be shown to tend on the whole to secure the greatest satisfaction of our spontaneous desires, and thereby the Greatest Happiness. But there are many exceptions to this general tendency of the moral feelings, as well as of the rest of our civilising machinery, and the chief use of the Greatest Happiness principle is to correct both that machinery and the moral feelings, when by some mal-adjustment they needlessly restrict our actions and impoverish our life. How, then, can the moral feelings be the ultimate grounds of ethics? Such grounds are, indeed, to be sought in our feelings, but in the whole of them, not in a mere selection.

Here, indeed, as in treating of the personal End, our author makes, I think, a fallacious abstraction of human nature. He seems to set up for Moral Philosophy (like many others) a sort of Moral Man, corresponding in some sort with the Economic Man who cuts such a figure in the Science of Wealth. But the cases are not parallel. For that whose production and distribution are treated of by Ethics and Politics is the total Good, from which no abstraction is permissible, as by making moral peace the End; whereas Economics deals only with Wealth, or one condition of Good. Again, those activities of human life that are concerned with Wealth are to a great extent separable from the rest, and we are urged to them by feelings that may to some extent be considered separately; so that in this case abstraction, judiciously guarded, may be a legitimate scientific artifice: whereas the Greatest Happiness is dependent, not upon a separate class of activities, but upon all, and upon all our feelings and impulses; so that Moral Philosophy deals with phantoms, unless it treats of the co-ordination of all our impulses in relation to the total good. There is, indeed, another way in which Ethics, like Political Economy and every other science of causes, must resort to abstraction, I mean in attempting to eliminate the tendency of a given action in relation to Happiness, from the tangle of circumstances amidst which it operates; but of this hereafter.

The conceptions of Ought, Duty, Law, says Prof. v. Gižycki, all referred originally to something outward and heteronomous, and attain to an inward and autonomous meaning only for the completely developed human being. But (it may be asked) do not all these conceptions need a thorough-going reconstruction in Utilitarian Ethics? Moral law, says our author, is different both from natural law and from the law of the State: from the latter, because it does not need another to lay it upon a man; he lays it upon himself, being autonomous. Now, surely, this figure of speech from Kant's imposing moral rhetoric sheds no light upon our subject. Is it not better in Utilitarian Ethics to regard all moral laws as natural laws describing the means to a certain end, *i.e.*, the causes that tend to produce a certain effect, namely, Happiness, which, according to this philosophy, is the natural End of human action, or that which best co-ordinates our spontaneous impulses? Thus: to speak the truth tends to Happiness; to give each man what he has paid for tends to Happiness; and so on.

I am sorry to see that our author emulates Kant by formulating a categorical imperative: "Act so that your conduct shall conduce to the welfare of mankind in general". Whence is the imperative form derived; or, if it is the nature of good men to act so, where is the need of the imperative; or, if it is not their nature, what avails it? For men who are not good, who do not desire to know and do what is right, the moral philosopher, as such, can do nothing. He must leave them to the legislature, to

the public censor, to the moral rhetorician, and to the vengeance of nature. In Utilitarian Ethics, at least, all imperatives are hypothetical, being conditional on the acceptance of the End. To anyone who adopts the End, the laws of the Science may be presented thus as rules of Art: since you desire the Greatest Happiness, speak the truth. But the End itself cannot be thrown into an imperative. And such terms as 'Ought,' 'Duty,' in pure morals, apart from external sanctions, have, of course, a corresponding explanation. Their imperative tone is due to their outward and heteronomous origin, and it gives them great rhetorical efficacy.

Conceiving of moral laws as natural laws, Ethics takes (as observed above) the same general form as other sciences of causation, and may be compared with Political Economy as a science of means to a certain End. The numerous cases in which a means may fail to attain the given end need not then be interpreted as exceptions to an imperative rule (a treatment that raises peculiar difficulties in Ethics), but as instances of the counteraction of one cause by others: as when truth told to a highwayman does not lead to the Greatest Happiness, because he takes a mean advantage of it. The body of most general moral laws, considered as natural laws of the tendency of conduct, constitute the 'Absolute Morality' of Mr. Spencer, which he describes as only fit for the ideal society; that is, for a state in which moral friction, or the interference of causes, is reduced to a minimum. This may be compared with that abstract Political Economy that is equally good for Saturn and our own planet. Relative Morality is the study of the probable effect of conduct in our actual circumstances, considering more or less the conflicting causes. Prof. Sidgwick, in bk. iii. of *The Methods of Ethics*, shows how far Common Sense has darkly pursued this inquiry. In no case, however, do we meet with exceptions to the primary laws, considered as statements of the tendency of Truth, Honesty, &c., to produce Happiness. In this sense such laws belong to eternal and immutable morality.

I have lingered over these third and fourth chapters because they contain doctrines more likely than the rest of the book to raise some difference of opinion amongst Utilitarians. In the fifth chapter the author expounds the notion of Virtue. In the sixth and seventh he shows, with much force and lucidity, that Morality rests on the law of Causation, and he examines the bearing of this law on the notions of Freedom and Responsibility. The remainder of the book is occupied with a lengthy investigation of the relation of Morality to Theology and Nature. The temper of these discussions is admirable: nothing could be more explicit, nothing less offensive to any reader who may come to them with prepossessions out of harmony with the author's conclusions. Their extent, however, precludes me from giving any account of them here.

CARVETH READ.

VII.—NEW BOOKS.

[*These Notes (by various hands) do not exclude Critical Notices later on.*]

Natural Inheritance. By Francis Galton, F.R.S. London: Macmillan & Co., 1889. Pp. x., 259.

"The inquiry of which this book is the result relates to the inheritance of ordinary qualities by successive generations of a people, and it is carried on by more refined and searching methods than those usually employed. It is based on the fact that the characteristics of any population which lives in harmony with its environment remain statistically identical during successive generations. It was easy to see in a vague way that an equation admitted of being based on this fact; also that the equation might serve to suggest a theory of descent, while no theory of descent that failed to satisfy it could possibly be true. A large part of the book is occupied in putting this equation into working order; in the course of which operation numerous obstacles had to be confronted in turns, and then to be either evaded or overcome. The final result was that the higher methods of statistics, which consist in applications of the law of Frequency of Error, were found to be eminently suitable for expressing the course of heredity. By their aid the desired equation was thrown into an exact form, and it became easy to compare its various consequences, obtained through calculation, with the observed facts. In all cases the results proved to be consistent. The nearness of the various degrees of kinship was incidentally determined with numerical precision, as well as the average contribution from the personality of each ancestor to the total heritage of the child, as distinguished from what he might transmit in a latent form. Much insight was also obtained into the proportion between the latent and the personal elements in each individual. In the preliminary chapters relating to the processes of heredity, new light was thrown on the tendency of some elements to become blended in descent, and in others to be mutually exclusive; also on primary and secondary orders of typical stability; on the infertility of mixed types, and on numerous other topics." Critical Notice will follow.

Letters of David Hume to William Strahan. Now first edited with Notes, Index, &c., by G. Birkbeck Hill, D.C.L., Pembroke College. Oxford: Clarendon Press, 1888. Pp. lv., 386.

This collection of Letters from Hume to the printer of his works from 1756 onwards — saved from dispersion by Lord Rosebery's purchase—is edited with the same singular care, almost exhaustiveness, that Dr. Birkbeck Hill has before brought to bear on Boswell's *Johnson*. The Letters, over 80 in all, are treated in consonance with a notion of Hume's own that "every book should be as complete as possible and should never refer for anything material to other books". Libraries would assume a different aspect if the rule were universally followed; but it is very well that it has been observed in the present case. The amount of illustrative matter, as interesting as it is pertinent, presented with the Letters, renders the volume the first indispensable supplement to our knowledge of the great sceptic that has appeared since Burton's *Life and Correspondence of D. H.* in 1846. It is the man or the man-of-

letters, far more than the philosopher, upon whom additional light is thrown; for the philosophical works, except the *Dialogues on Natural Religion*, had all appeared before Hume came into relation with the worthy and intelligent Strahan. We get, however, most curious indications of his unremitting anxiety, till within a few days of his death, to make as perfect as possible the general collection of *Essays* with which from 1757 he incorporated his two philosophical *Enquiries* (that superseded for himself all that he had done in his youthful *Treatise*). Otherwise the Letters disclose a good deal that is new about the posthumous publication of the *Dialogues on Natural Religion*. Dr. Hill, by subjoining various letters from Adam Smith and others (some of them not before published), can hardly have left anything to be added to the story of Hume's dying concern for that work of his maturest powers. While there is so much to thank the editor for, one must note in him a curious disposition to insinuate things to Hume's disadvantage, and, in particular, to magnify the import of the sweet-tempered philosopher's solitary lapse from perfect equanimity (away from the ground of politics or national feeling) throughout a correspondence of twenty years.

Life of John Stuart Mill. By W. L. Courtney. ("Great Writers.") London: Walter Scott, 1889. Pp. 194, xii.

This short *Life* adds nothing to what was already known of Mill, but is conceived on the whole in a notably appreciative spirit. It ought to have the effect of sending the reader back to Prof. Bain's *John Stuart Mill* (1882), which, with the same author's *James Mill*, supplies to Mr. Courtney most of the personal facts that he knows outside of Mill's *Autobiography*. He makes, however, effective use besides of the interesting particulars regarding Mill to be found in *Caroline Fox's Journals and Letters*, and extracts are given from a striking judgment by Mr. Gladstone (written for this *Life*) on Mill's parliamentary career. Where Mr. Courtney, who has before occupied himself with Mill's philosophy (see Mind iv. 421), chiefly fails is in familiarity with its sources. For example, if he is one of "those who have read Hartley's *Observations on Man*" (p. 21), he must have a little forgotten it, when remarking on James Mill's *Analysis* in comparison with it; and, at page 77, there is the old want of discrimination, when Mill appears to be connected as much with Hume as with Hartley. One other point may be noticed. Mr. Courtney does not omit to mention, after Prof. Bain, the article on Whately's *Logic* in the *Westminister Review* of 1828, but seems not to know it at first hand. It gives more evidence of advance towards Mill's well-known positions of fifteen years later than appears in Prof. Bain's references to it, and it has always seemed strange to the present writer that it is wholly passed over by Mill himself in the *Autobiography* when he marks the stages in the development of his logical views. If ever a selection of Mill's earlier papers, excluded from the *Dissertations and Discussions*, is made and published, it should especially include this Whately article.

On Truth: A Systematic Inquiry by St. George Mivart, Ph.D., M.D., F.R.S. London: Kegan Paul, Trench & Co., 1889. Pp. x., 580.

"This work is a fundamental scientific inquiry, written in plain language, concerning the grounds of all assent, and the relations which subsist between the world and the human mind. It also contains a review of conceptions deemed by the author probable or evidently true respecting the essential natures of the various existences revealed to us by the senses and the intellect. It is an inquiry which necessarily touches upon many popular and scientific beliefs, and it lays down a foundation, based

upon natural science alone, for the systematic regulation of conduct." Its five sections are entitled—Fundamental Facts and Principles, Idealism, Man, The World, Science. Critical Notice will follow.

The Philosophy of Mysticism. By CARL DU PREL, Dr. Phil. Translated from the German by C. C. MASSEY. 2 vols. London: George Redway, 1889. Pp. xxviii., 332, 316.

This is a carefully executed and well annotated translation of a remarkable attempt to give "mysticism" an experimental basis. The facts to which the author appeals are those of dream and of "somnambulism"—under which term is included "artificial somnambulism," or hypnotism. Of two classes of these facts he gives especially full accounts—which have an interest independent of the theories founded on them—in vol. i., ch. 5 ("Dream a Physician," pp. 191-332), and vol. ii., ch. 1 ("The Faculty of Memory," pp. 1-115). He has collected here —(1) cases of direct knowledge by "somnambulists" of the processes of organic life in themselves or others, and examples of their power over these processes, either direct by "natural sanative" action or indirect by the prescription of appropriate remedies revealed in dream; (2) cases of exalted memory in dream and allied states, and of "alternating consciousness". The conclusion he draws from the reports accumulated is that in somnambulism and deep sleep the "threshold of sensibility" is displaced; those vegetative processes, for example, that are "unconscious" in waking life becoming conscious in the state of dream. The dreams of "deepened or exalted sleep" have not the irrational and incoherent character of ordinary dreams. "All the irrational part" of dreams "derives from the participation of the organ which is active in waking life, while all the rational is due to the freedom of the dream-organ from disturbance". Observation of somnambulists shows that there is present to them in dream the memory of their waking life, although, as a rule, they do not remember their dream-life on waking. The dream-life, then, is "higher" than the waking life, since it goes beyond it and includes it. And this is so not merely in the case of somnambulists, but generally. Somnambulists only differ from other persons in manifesting with exceptional evidence what exists in all cases. The heightened memory in dream, for example, is a fact that all may verify who ever chance to remember their "deep" dreams. The explanation of the facts, according to the author, can only be found in a doctrine of dual personality. Man is to be regarded as a single "subject" including two different "persons," the higher person of exalted sleep and of the mystical states generally, and the lower person of waking life. The limited circle of consciousness of the person of waking life is divided by the "psycho-physical threshold" from the life that we call "unconscious" but that is unconscious neither for the "person" of dream nor at any time for the real "subject". Organic processes for "the transcendental Ego lying beneath the psycho-physical threshold" are all in the full light of consciousness. In the "mystical" modes of consciousness—all of which are in essence "somnambulic"—there are to be seen "germinal indications and psychical beginnings" prophetic of new powers that man will acquire in the course of biological evolution. That there are such indications we are led to expect by "Darwinism". The new powers, however, are powers that the same individual will have the use of in the future, not simply, as in the ordinary "Darwinian" view, powers to be acquired for the benefit of "the race". The present life has been taken on by "the transcendental Ego" in order to acquire experience that is preserved in memory for

some future mode of personal existence. The author leaves it somewhat doubtful what are the physiological relations of "the transcendental Ego". On the one hand, he identifies "the transcendental Subject" with "the organising principle in us," and many of the facts suggest to him that, "as waking consciousness proceeds parallel with corresponding changes of the senses and brain, so the transcendental-psychological functions seem to be parallel with corresponding changes in the ganglionic system". On the other hand, he places the same subject at the ground of those "mystical" states in which the life of the senses is suppressed; and, as the translator points out, his general theory requires that the subject should be only partially "immersed" in the physical organism. He has evidently not fully decided in his own mind whether any well-authenticated facts necessitate the assumption of a consciousness without physiological correlate, or whether this assumption is absolutely required by his theory. If he is arguing, as he claims to be, on the ground of a "monistic doctrine of the soul," then there is need of more proof than he gives that the most characteristic cases of "ecstasy" on the one hand, and of the "natural sanative power" of the organism in the hypnotic state on the other, can have precisely the same physiological explanation. Another point on which the translator makes some acute remarks is the author's attempt to find Kantian support for his mysticism. To an argument from the Kantian point of view, the translator—who occupies generally the position of a disciple—objects that the distinction between two worlds of subjective experience, even though one of them be called "mystical," cannot be identified with Kant's distinction between the phenomenon and the thing-in-itself. While only seeking confirmation and not proof of his doctrine in the Kantian philosophy, the author lays some stress on coincidences of parts of his own system with Kant's "intuitive" anticipations of "modern mysticism," and has edited the psychological section of the little-known *Vorlesungen über Metaphysik* (see below, p. 300) with a view to the support of his positions.

Social Progress. An Essay by DANIEL GREENLEAF THOMPSON, Author of *A System of Psychology, The Problem of Evil, The Religious Sentiments of the Human Mind, &c.* London: Longmans, Green & Co., 1889. Pp. xix., 161.

The author continues the series of his works noticed in MIND (for the last, see vol. xiii. 285) by an essay on "Social Progress". The result of the essay is very well given in the following passage: "Social Progress is only made in the direction of obtaining the most perfect liberty. The most complete individual happiness is the ultimate desideratum; but this can in no way be secured but through the perfection of Social Liberty. The latter is even necessary for the perfection of individual freedom. To realise such ideals of liberty there must be law, because only through law can there be security. Nor can security be perfect except there be equality of rights. These, in turn, cannot be maintained if there be great inequality of power. And, in fine, none of these conditions can be completely developed save through the universal prevalence in humanity of that disposition and character by which one finds his happiness and welfare in the happiness and welfare of his fellow-men." In his preface Mr. Thompson gives an interesting account of the development of his thought and of the "plan of life" which he long since formed, and which he has been able to combine with a legal career. It will not be without interest to students generally, he rightly thinks, "to note that it is possible for a man who during all the

period has been also devoted to the study and practice of an exacting profession to carry out for twenty years a systematic plan of philosophical study, writing and publication".

The First Principles of Knowledge. By JOHN RICKABY, S.J. ("Manuals of Catholic Philosophy.") London: Longmans, Green & Co., 1888. Pp. xii., 412.

Another volume of the "Manuals of Catholic Philosophy" follows the ethical volume mentioned in the last number of MIND. The author, after a reference to Mill and Prof. Bain on the necessity of a "material logic," proceeds to the following explanation of the purpose of the present manual: "Little as the modern representatives of the Schoolmen are satisfied, either with the spirit of Mr. Mill's demand, or with the mode of his own response to it, they have deemed it well worth while, not indeed to change the old Logic, but to add to it a new book. . . . The newly-added part of Logic, often called Material, Applied or Critical, takes for its special purpose to defend the objective reality of thought. It is thus an assertion of a form of realism, as against idealism, and is called in this book the "Philosophy of Certitude". For the whole question comes to this: What reasonable account can be given of man's claim to have real certainty about things? What are the ultimate grounds for holding that man may regard his knowledge about objects as undoubtedly correct? Scientifically to draw out the account here demanded is a work appositely described by the title, *The First Principles of Knowledge.*" In Part i. ("The Nature of Certitude in general," pp. 1-247), the Scholastic definition of "truth of intellect" as "the conformity of thought to thing" is defended against the modern doctrines opposed to it. Part ii. ("Special Treatment of Certitude," pp. 249-396) discusses successively the questions of "The Trustworthiness of the Senses," "Objectivity of Ideas, whether singular or universal," "Exaggerated Realism, Nominalism and Conceptualism," "Consciousness," "Memory," "Belief in Human Testimony," "Belief in Divine Testimony". Having in the body of the work contrasted the illogical character and want of system of modern philosophies with the logical and systematic completeness of Scholasticism, the author in his last chapter balances his assertion of "the prerogatives of reason," which have so far been "put higher than this sceptical age is inclined to allow," by an assertion of the superior claims of "supernatural faith," to the production of which "reason alone is inadequate".

Logic. By RICHARD F. CLARKE, S.J. ("Manuals of Catholic Philosophy.") London: Longmans, Green & Co., 1889. Pp. xix., 497.

Deductive Logic. By ST. GEORGE STOCK, M.A., Pembroke College, Oxford. London: Longmans, Green & Co., 1888. Pp. xi., 356.

These two students' manuals—of interest from their different points of view—are reserved for comparative Critical Notice; as in the present No. (p. 271, above) Father Rickaby's *Moral Philosophy* has been set beside the American manual of President E. G. Robinson. Father Clarke is editor of the whole "Stonyhurst Series" of Catholic manuals, which is to include a *Natural Theology*, a *Psychology* and a *General Metaphysics*, beyond the three volumes already published. Father Rickaby's *First Principles of Knowledge* (see previous note) will not be overlooked in connexion with his colleague's *Logic.*

Darwinism and Politics. By David G. Ritchie, M.A., Fellow and Tutor of Jesus College, Oxford. London: Swan Sonnenschein & Co., 1889. Pp. 101.

"There can be no doubt," the author says, "that the formulæ of Evolution do supply an apparent justification to the defenders of unrestricted *laissez faire* and to the champions, more or less consistent and thorough-going, of existing inequalities of race, class and sex, and a plausible weapon of attack against those who look to something better than slavery or competition as the basis of human society." He accordingly criticises the formulæ in question—namely, "heredity" and "the survival of the fittest"—with a view to showing that, properly understood, they do not condemn the pursuit of a social ideal differing from that of "the aristocratic Conservative" or of "the *laissez faire* Radical". His contentions, reduced to their simplest form, are (1) that the struggle for existence is not simply a physical struggle, but, in human society, is also a struggle among ideas; (2) that for the human race the influence of social institutions and of education must be taken account of over and above the influence of physical heredity. This last especially is of course an important truth to insist on against anyone who should maintain that the formulæ of "survival of the fittest" and "heredity" are, either separately or together, perfectly adequate to the explanation and regulation of all social activities; but it must be said that Mr. Ritchie's applications of it to the criticism of scientific ideas are not always successful. A good deal of the argument on the subject of heredity for example (pp. 51-69) seems to be irrelevant whatever conclusion we are expected to draw. Having first tried to minimise the importance of heredity by citing the opinions of naturalists who disbelieve in the transmission of *acquired* characters, the author quotes from Mr. Galton a passage to the effect that "there is a definite limit to the muscular [and intellectual] power of every man, which he cannot by any education or exertion overpass" (pp. 61-2), and goes on to say, "If this is the *dictum* of science, it might seem for a moment to deal a fatal blow to the aspirations of democracy". He then proceeds to argue that under existing social conditions there are obstacles not recognised by Mr. Galton to the free unfolding of innate powers. Now if this argument is directed against Mr. Galton's position as to the inequality of inherited aptitudes, it in no way touches it. If on the other hand it is only directed against the "too contented acquiescence in existing social arrangements" to which "Mr. Galton *seems* to lend countenance," what is the point of the previous argument that "the doctrine of heredity" may be nothing more than "the survival of a very ancient superstition"? (p. 51). The force of Mr. Ritchie's criticisms is in some places difficult to see because of the uncertainty in which he leaves us as to the precise nature of his social ideal. There seems, for example, a notable inconsistency between pages 85-7 and 88-9. First it is implied that in politics, but not in the family, "the patriarchal stage of social evolution" is already transcended. Then, at p. 89, it is said—"The family ideal of the State may be difficult of attainment, but, as an ideal, it is better than the policeman theory. It would mean the moralisation of politics."

The Elements of Mental and Moral Science as applied to Teaching. By W. C. Coupland, M.A., D.Sc., Author of *The Spirit of Goethe's Faust*, Translator of Hartmann's *Philosophie des Unbewussten.* London: Joseph Hughes, 1889. Pp. 103.

"The design of this booklet," the author says, "is to familiarise teachers with the idea of the close relationship subsisting between

Science of Mind in general and Science of Education in particular. In so brief a treatment there is no pretence, of course, of surveying the entire field; in fact, I have merely written a short essay, calling attention, in my own way, to certain aspects of the subject, in the hope of leading some with elevated conceptions of the scholastic profession to engage in a thorough study of the Science and Philosophy of Education." Points to be noted in the author's treatment are his division of minds into the "subjective," "sensuous" and "objective" types (p. 33), and, on the practical side, his views that "the last stage of the educational process consists in the calling into play one supreme motive, *pleasure in the exercise of original power*," and that "it is by the discipline of the natural consequences of action that the true conscience is formed".

Corona: The Bright Side of the Universe. Studies in Optimism. By F. T. Mott, F.R.G.S. London: Williams & Norgate; Leicester: J. and T. Spencer, 1888. Pp. vii., 190.

A rhapsodical development, partly in prose and partly in verse, of a theory called "the force-wave theory," which, "without denying the reality of matter, makes the existence of mind independent of it and superior to it, and opens up a scientific possibility of a future life".

Proceedings of the Society for Psychical Research. Part xiii. London: Trübner & Co., 1888. Pp. 271-397.

Besides an address from the president, Prof. H. Sidgwick, and two other short papers—"Connexion of Hypnotism with the Subjective Phenomena of Spiritualism" (anonymous), "Experiments in Thought-transference," by M. Dessoir—this Part contains a very careful and candid examination by Mrs. H. Sidgwick (pp. 288-354) of the "Evidence for Premonitions" which the Society has so far obtained. Her conclusion is that, though she thinks "no one will deny that some at least of the dreams are, as reported, if not premonitory, at least very remarkable coincidences,"—yet, all things considered, she does not think "the possibility of supernormal prevision should be accepted even as 'a working hypothesis' by the scientific world," as she herself considers "telepathy ought to be accepted". In a "Supplement," which will henceforth consist of "papers not strictly included within the transactions of the Society," Mr. F. W. H. Myers gives a reasoned account of what he calls "Experiments on Strata of Personality" by Profs. Pierre Janet and J. Liégeois, also a brilliant and incisive estimate of "The Work of Edmund Gurney in Experimental Psychology". The writer of the obituary notice of the lamented Gurney in Mind No. 52 seizes this occasion to say that, soon after writing, he became satisfied that it was a mistake to suppose that Gurney's strength had been broken down by the ardour of his Psychical Research work.

A Brief History of Greek Philosophy. By B. C. Burt, M.A., formerly Fellow, and Fellow by Courtesy, in the Johns Hopkins University. Boston: Ginn & Co., 1889. Pp. xiv., 296.

"Most of the works treating of the subject of which this volume treats are learned and extensive, overwhelming the general reader, and even the student, almost, with a sense of the superabundant wealth of the ancient thought in particular, and the world's thought in general. It is hoped that the present work will render accessible in convenient form and quantities some of the noblest portions of the intellectual wealth of Greece. An attempt is here made not merely to expound and elucidate,

but also to present in their historical connexion, and give a just estimate of the validity of, the leading standpoints and categories of Greek thinking. Much reading and not a little original study have been given to the task." The history seems to be careful and accurate; but the author's references, both in the bibliographical list given at the beginning "For the convenience of the student," and throughout, are exclusively to English books and translations.

L'Écriture et le Caractère. Par J. Crépieux-Jamin. Précédé d'une Préface de M. le Dr. Paul Helot. Avec 146 figures dans le texte. Paris: F. Alcan, 1888. Pp. 313.

The principle of M. Crépieux-Jamin's work is "the identification of handwriting with mimetics". Handwriting is to be regarded as "composed of a number of little gestures". Since the gestures of writing, like those of expression generally, are physiological movements, proportioned, as regards extent, constancy and energy, to corresponding "psychological movements," they may become the ground for inferences to character. "Prenons pour exemple l'écriture rapide. Il nous répugne de penser qu'une série de traits rapides puissent être formés habituellement par un esprit mou, une nature flegmatique. Nos mouvements sont des réponses à l'excitation cérébrale; s'ils sont forts, c'est que le moteur a de la puissance; s'ils sont vifs, c'est que le moteur est animé d'un mouvement rapide. Une écriture rapide répond à une vive excitation nerveuse, elle doit être rapportée à un état psychologique comportant cette excitation: conception rapide, vivacité ou précipitation accidentelle." "Graphology," the author claims, is thus "based on physiology, demonstrated by the experimental method". His results are curious and interesting, whether all of them can be held to be established by strict scientific method or not. The subject is treated under the principal heads of "general" and "special" signs (formation of particular letters, &c.), and of resultants (inference of character from combinations of "signs"). Some pages are devoted to handwriting in disease (pp. 252-300) and to "the origins of graphology" (pp. 17-44), among the precursors of which Leibniz is rightly referred to. (The want of clearness the author complains of in the passage cited from *Leibniziana* at p. 24, it may be remarked, is due to a mistranslation.)

Etudes de Science réelle. Par J. Putsage. L'Instinct et l'Intelligence. De la Responsabilité. Discussion philosophique. Mons: H. Manceaux; Paris: F. Alcan; Bruxelles: A. Manceaux, 1888. Pp. 360.

Belief in anthropomorphic deities, on which social order rested in the past, having lost its power, and modern materialism being incompatible with the ideas of justice and responsibility, the only means of averting the anarchy that threatens modern society (based, as it is, on force and not on right) is a philosophical doctrine equally opposed to materialism and to "deism". The chief positions of this doctrine, as set forth by the author, are the impersonality of the moral order and the eternity of the soul. Human intelligence is the result of the union of the organism with an "immaterial individuality". From the "real sensibility" of man is to be distinguished animal "instinct," which is purely "a result of the organism". Responsibility implies freedom of the will. Man's free-will consists in his capability of choosing between "purely physiological impulses" and "obligations of the moral order"; and this depends on his possession of a principle of "real sensibility," immaterial, uncreated and indestructible. "It may with certainty be affirmed that

future society will be established neither on the basis of materialism nor on that of an anthropomorphism of whatever kind: its basis will be *real science*, that which demonstrates scientifically the immateriality of the feeling of existence, the liberty of actions, the incontestability of right and of eternal impersonal justice."

Etudes sur la Raison. Par FÉLIX CELLARIER. Paris: F. Alcan, 1889. Pp. 279.

These "Studies" are preliminary to a more extensive work; the author's final aim being "to constitute the definitive theory of knowledge". "If we have been fortunate in our efforts, we have obtained an immense result, for we possess henceforth, for knowledge, a larger and more unshakable basis than the *minimum quid inconcussum* of Descartes, his famous *Cogito ergo sum*. This basis is the absolute affirmation of absolute being by the *ego*; we do not add: and consequently the existence of that being, for that would be a pure tautology." From the affirmation of absolute being flow certain "rational ideas," divided into—Ideas representing realities (Ideas of (1) being, (2) substance, (3) cause); Ideas representing attributes (Ideas of (1) infinite, (2) unity, identity, immutability, (3) good, true, beautiful); Ideas representing relations (Ideas of (1) time, (2) space). Against Kant the author concludes that "all judgments *a priori* are analytical, and give us knowledge that we draw really from the rational ideas in which, though in an obscure manner, they are contained". The difference of this conclusion from Kant's he explains by the difference of his point of departure. "Kant does not admit that we know the infinite as we know the finite; for our part, on the contrary, we believe that we attain absolute being, as we attain relative being, by a concrete knowledge." To found the knowledge of the absolute on a concrete fact of knowledge presents the difficulty that this fact must imply "an infinite intelligence". "But can an infinite intelligence be found in a finite being?" To this the author replies by a distinction between "essence" and "existence". The essence of finite existences is infinite. Since the infinite is necessarily one, there is only one essence, although there are "many diverse existences". Consequently, there is only one single reason, "absolute, immutable, infinite, since reason is an attribute of the essence, and not of the existence, which does but manifest it".

Essai sur la Méthode en Métaphysique. Par PAUL DUBUC, Ancien élève de l'Ecole normale supérieure, Agrégé de philosophie, Docteur ès-lettres. Paris: F. Alcan, 1887. Pp. 310.

The author divides the problem of metaphysics into the three traditional ones of "cosmology," "rational psychology" and "rational theology," and each of these again into the questions of "existence" and of "essence". He sets himself to show, against those members of the "positive," "psychological" and "critical" schools who deny the possibility of a metaphysics distinct from science, that these problems all necessarily present themselves, that they cannot be perfectly solved by scientific methods, and that, with the aid of a philosophical method on which henceforth agreement ought to be possible, they may all be solved in the sense of "spiritualism". First, against those who (with Comte) admit no philosophy beyond a synthesis of the objective sciences, he shows that science points beyond itself to the question of the existence of real material objects, and that for the solution of this neither the experimental nor the mathematical method will suffice. Next he proceeds to the consideration of "the subjective method" of psycho-

logists. This, he concludes, is sufficient by itself to solve the questions of the existence and essence of the soul. The testimony of consciousness both proves infallibly the existence of a soul that is essentially active, and enables us to assign to it the attributes of causality, substantiality, finality, unity, identity and liberty. The subjective method, however, leaves unsolved the cosmological and theological problems. The theological problem, or the question of the absolute, is to be solved by the "critical" method, which, although hitherto used chiefly for the destruction of metaphysics, can found as well as destroy. For a positive solution of the question of the absolute in accordance with "critical" method, the author finds hints in Mr. Spencer's position maintained against Hamilton. The same method, he proceeds to argue, justifies us in defining the essence of the absolute in terms of personality, though it is to be admitted that the definition can never be adequate. Philosophy is able to decide positively the question of the existence of the world by the consideration that matter is "impenetrable" for spirit; but it has to leave the question of the "essence" of objects to science. Objective science can determine the phenomenal but not the inner nature of matter; and this remains finally inaccessible to all methods. In the end, therefore, metaphysics, "first philosophy" or "the science of being" retains "rational psychology" and "rational theology" wholly for itself, investigating the former by the "subjective" and the latter by a speculative development of the "critical" method, while it leaves cosmology—except so far as the mere existence of the world is concerned —to the experimental and mathematical sciences.

La Morale d'Aristote. Par Mme. Jules Favre (*née* Velten). Paris: F. Alcan, 1889. Pp. 388.

A selection of translated extracts from Aristotle, with introductory expositions, on the same plan as *La Morale des Stoïciens* and *La Morale de Socrate* (see Mind xiii. 136, 616). The main divisions under which the extracts are arranged are—Part i., "Virtue"; Part ii., "The individual and social Virtues"; Part iii., "The Affections"; Part iv., c. i. "God," c. ii. "The Soul," c. iii. "Education".

La Morale, l'Art et la Religion d'après Guyau. Par Alfred Fouillée. Avec portrait de Guyau. Paris: Alcan, 1889. Pp. 200.

"The future of morals, of art, of religion,—three of the greatest preoccupations of our time,—such is the object of this volume. Starting from the ideas of a philosopher, too early dead, who excited universal sympathies in England as in France, the author rises to considerations of perfectly general reach. The dominant idea which Guyau developed in a series of important works is the expansion of life as common principle of art, of morals and of religion. According to Guyau,—and this is the generating conception of his whole system,—life, well understood, involves in its very *intensity* a principle of natural *expansion*, of fecundity, of generosity, which morals, art and metaphysics manifest under three diverse forms. In the first part of his book M. Fouillée examines this idea in its application to art, where it appears to him a necessary corrective of the Spencerian theory that makes of art a kind of play. To bring out this, he examines the *Vers d'un Philosophe*, in which Guyau himself applied his æsthetic doctrines to poetry. The second part sets in relief the new elements brought by Guyau to the ethics of evolution, as well as the principal objections he himself made against contemporary English moralists. The third part has reference to the future of religion and of metaphysics, which again, for Guyau,

attach themselves to the very sources of life, because they constitute the adaptation of the individual to the *universal* life, to universal or cosmical society." Critical Notice will follow.

E. Caro, de l'Académie Française. *Philosophie et Philosophes.* Paris: Hachette, 1888. Pp. 423.

Of these collected papers by M. Caro, written at various times within the last twenty years or more, only the first ("Comment les Dogmes finissent et comment ils renaissent," pp. 1-60) treats directly of "Philosophy" apart from "Philosophers". The rest of the book consists of essays on the life and work of Théodore Jouffroy and Frédéric Ozanam; a study of "Mme. Swetchine: son rôle et son influence dans la société française"; and reviews of works by Cousin, Simon, Ravaisson, Gratry, Jourdain, Saisset and Wallon. The essays are representative work of an independent member of the Spiritualist school.

Maurice de la Sizeranne. *Les Aveugles par un Aveugle.* Avec une Préface de M. le Comte d'Haussonville, de l'Académie Française. Paris: Hachette, 1889. Pp. xviii., 176.

This interestingly written little book is by an author who, having lost his sight (nearly twenty years since) at the age of nine, has come to occupy himself specially with the education and technical instruction of the blind, and with the diffusion among the general public of an interest in their lot. The parts into which M. de la Sizeranne's book is divided are—(1) Psychology of the Blind, (2) Valentin Haüy and his Work, (3) Schools of the Blind, (4) The Blind in Society. The psychology is to a greater extent drawn from observation than from introspection; it being the author's aim to impress on his readers that there is no general intellectual and moral psychology of the blind, who differ from one another in as many ways as those who see; but from observation he is able to point out some characteristics depending on the special acuteness acquired by the senses of hearing, touch and smell. With the development of the sense of hearing he would associate the special feeling for music and poetry often found in the blind. He himself—the son of a painter, and brought up in his father's studio—has always retained a specially strong interest in pictorial imagery (pp. 32-3).

Le Sens de la Vie. Par Edouard Rod. Paris: Perrin, 1889. Pp. 313.

This is a very readable philosophical romance, which may perhaps best be described as a study of the ideal sceptic (tinged with pessimism), who arrives at no fixed intellectual belief of any kind, but who lives exactly as other people do. In four Books, entitled "Marriage," "Paternity," "Altruism," "Religion," the experiences of the hero's life, with the emotions and reflections they arouse, are described in imaginary autobiographic form. He has incipient tendencies to various modern enthusiasms, but can give himself up wholly to none of them; finds that by an act of will it would be quite possible to acquire a religious faith, but that he does not after all desire to have one; and as the end of his reflections thinks of constructing a philosophical system to be entitled "Illusionism," with "Dilettantism" for its practical outcome, but concludes that it is better to leave it unwritten; in the meantime finding enduring satisfaction only in the domestic affections, yet never quite content to become absorbed in these.

Sur la Composition des Sensations et la Formation de la Notion d'Espace. Par L. DE LA RIVE. Genève: H. Georg, 1888. Pp. 99.

An attempt at a mathematical theory of the formation of "the notion of space". In the author's view, "a notion of space might result from the exercise of any one of the senses". "The tactile and visual sensations, however, have a dominant importance in the psychological operation in question, because the exercise of those two senses is accompanied by voluntary movements of a precise kind." For the foundation of the mathematico-psychological theory proposed, colour is taken as "a variable and continuous quantity"; "three variables of coloured sensation" are assumed, *viz.*, (1) tone of saturated colour, (2) degree of saturation, (3) intensity; Young's theory of the three elements of "specific colour" is adopted. "Consciousness of voluntary movement" is resolved into three elements (p. 54), and its mathematical theory worked out separately. Having developed mathematical theories of the "composition" of sensations of colour and sensations of "motor-effort," the author goes on to "the notion of spherical space" and to the separate study of "monocular visual space" (pp. 76-89) and of "tactile space" (pp. 89-99). The latter, he finds, "possesses all the elements of extension. Whilst monocular visual space localises the luminous sources along the directions of angular space without assigning to them a distance from the centre, tactile space localises the causes of contact, along the variable directions from a centre, and by the superposition of a second muscular activity, according to variable distances from this centre."

Prof. GIOVANNI CESCA. *La Religione della Filosofia scientifica.* Padova: Drucker e Senigaglia, 1889. Pp. 42.

Scientific philosophy, while excluding every form of theology, does not exclude religion; for religion contains, besides theology, another element, "the moral ideal," which has gone on increasing in importance as theology has declined. The future religion of scientific philosophy will be "the moral religion of humanity".

Le Degenerazioni umane. Di GIUSEPPE SERGI. Milano: Fratelli Dumolard, 1889. Pp. 228.

The author, having in his earlier chapters studied, on scientific lines, the various forms of "human degeneration"—such as insanity, criminality and the various forms of "parasitism"—discusses in his last chapter the means of social "regeneration". These he finds to be chiefly two—education, especially of the character, and repression. "The protection of the weak" is to be carried out by society within certain limits determined by its effect on the community as a whole. There is no objection to hygienic measures, for example, or to provision against accidents. On the other hand, those forms of "sentimental altruism" that augment the numbers of the degenerate are to be avoided, and there should be no question at all as to "the protection of the bad". "It is not the bad that we must protect but the good, that which is sound; the bad we must resolutely eliminate."

M. ANGELO VACCARO. *Genesi e Funzione delle Leggi Penali.* Ricerche Sociologiche. Roma: Fratelli Bocca, 1889. Pp. 238.

The author criticises at great length the doctrines of the new Italian school of Criminologists as to the origin and nature of crime, and attacks their theory of punishment. His own opinion is that the criminals that are anthropologically "degenerate," having been created by the injustice of society, ought to be treated with special tenderness.

Dott. Icilio Vanni, Professore ordinario nella Facoltà giuridica dell' Università di Perugia. *Prime Linee di un Programma Critico di Sociologia.* Perugia: V. Santucci, 1888. Pp. 142.

Thinking that what Sociology most needs at present is criticism, the author here examines—impartially and with very extensive knowledge of the literature of the subject—its assumptions, its results, and its position in relation to the other sciences. Sociology, he finds, although in a rudimentary or rather tentative stage, still exists as a definite branch of scientific inquiry. No one group of phenomena, however, has been shown to be the determining factor of social movement. Not even Comte's view that assigns predominance to intellectual factors can be accepted, though it has a far higher degree of probability than the doctrine that gives economical organisation the determining influence. Sociology must be distinguished from the practical sciences—ethics, politics, &c. Among the theoretical sciences it is "autonomous and distinct," alike from biology and psychology; the "differential character" of human social life being the special kind of continuity described under the name of "history". On this depends the practical function of sociology. The law of social evolution, once definitely known, will become a guide to action by making clear how and within what limits the ideal of society can be realised.

Der Ursprung der Sittlichkeit. Von Hugo Münsterberg. Freiburg i. B.: J. C. B. Mohr (Paul Siebeck), 1889. Pp. 120.

The answer which the writer—following Prof. Wundt—gives to the question of "the origin of morality" is that morality is developed out of "customs." which imply commands of society to the individual. The office of the "moral reformer" is to bring out the relative importance of social commands; in other words, to make explicit the relations they already bear to one another implicitly in the consciousness of the society in which he lives. In the struggle for existence those societies are selected for survival whose commands, as developed, are best adapted to the self-preservation of the community. The customs out of which morality arises are at first "morally indifferent". Morality appears when the individual obeys a command of the "collective will" simply because it is a command, and in opposition to personal inclinations that would lead him to disobey it. When inclinations become perfectly adapted to ethical commands, morality, as a separate thing, disappears. Kant therefore rightly held that only actions done from the mere sense of duty have ethical value. But if an action done from inclination is "morally indifferent" (in this resembling the customs out of which morality arose), it is not therefore less praiseworthy than a "moral" action. For morality has its value—not, as Kant held, in itself, but—as a means to "perfection," that is, to the attainment of an ideal of civilisation towards which humanity is actually moving but which it will never reach; and it is only one means to this end. Its function is chiefly negative, being to suppress actions that prevent man from attaining perfection. Accordingly, "the immoral is in every case worse than the morally indifferent, but the moral is by no means always better than the morally indifferent". Positively—that is, for progress—good actions done out of inclination are of more value than good actions done simply out of regard for the moral law; and in the course of development, both "ontogenetic" and "phylogenetic." strictly moral actions are constantly passing into the class of morally indifferent actions, to the advantage of the race in its progress towards a fuller civilisation.

Logik. Von Dr. Christoph Sigwart, o. ö. Professor der Philosophie an der Universität Tübingen. Erster Band. Die Lehre vom Urtheil, vom Begriff und vom Schluss. Zweite durchgesehene und erweiterte Auflage. Freiburg i. B.: J. C. B. Mohr (Paul Siebeck), 1889. Pp. xi., 485.

This second edition of vol. i. of Prof. Sigwart's *Logik* (vol. ii. of which was reviewed, on the appearance of the first edition, by Mr. Venn in Mind iv. 426) is extended from the first by 65 pp. The author has sought to profit by the criticisms that have appeared in the fifteen years since the publication of the first edition (1873), and by the new work that has been done in the theory of logic, but, as before, has aimed at reducing references as much as possible and at the avoidance of controversy on points of detail. (In order that vol. ii., with its index, may be used along with the present volume till a new edition of that appears, the original pagination is given with that of the present edition.)

Aus der Innenwelt. Psychologische Studien von Dr. Phil. Susanna Rubinstein. Leipzig: A. Edelmann, 1888. Pp. 211.

A former series of Essays by the authoress was noticed in Mind ix. 614. The present "Psychological Studies" are remarkable for the same combination of sound psychological knowledge with delicacy of original observation. The first two—on "Character" and "Feeling" (Gemüth)—treat of the volitional and emotional types of mind; the first being regarded as distinctively masculine, the second as distinctively feminine. The rest treat of—"Sympathy" (in its forms of "Mitleid" and "Mitfreude"), "Æsthetic Feeling," "Sleep and the nocturnal life of the Soul" (including hallucinations, hypnotic and other, as well as the phenomena of normal sleep), "Sensations in general," "Compulsory Colour-sensations" (Fechner's "Zwangsmässige Farbenempfindungen").

Geschichte der Ethik in der neueren Philosophie. Von Friedrich Jodl, o. ö. Professor der Philosophie an der deutschen Universität zu Prag. Band ii. Kant und die Ethik im 19. Jahrhundert. Stuttgart: J. G. Cotta, 1889. Pp. xiii., 608.

The author here continues his history of modern ethics, of which the first volume, bringing the history down to the end of the 18th century, was reviewed in Mind viii. 295. In this second volume he deals with ethical philosophy in Germany (bk. i., pp. 3-290), France (bk. ii., pp. 292-394), and England (bk. iii., pp. 397-494) during the present century, beginning in the case of Germany with a chapter on Kant. The notes and references, which, as before, are brought to the end of the volume, extend over pp. 495-698. Critical Notice will follow.

Lose Blätter aus Kants Nachlass. Mitgetheilt von Rudolf Reicke. Erstes Heft. Königsberg: F. Beyer, 1889. Pp. 302.

This first set of *Loose Leaves from Kant's Remains* has already appeared in the *Altpreussische Monatsschrift* (1887-88). Their *provenance* is from two sources: that of the smaller number (pp. 1-59) from a purchase made by the Königsberg library at a bazaar at Dantzic in 1878, that of the far larger amount from various collections (long before acquired by the same library), which about 1838 were more or less arranged by Schubert (joint editor of Kant's works) in thirteen bundles, with titles describing their contents. Omitting some letters, to be otherwise made public, the editor of these fragments, Dr. Reicke, now gives, carefully edited, from the Dantzic group, Kant's notes on topics such as reality,

happiness, analytical and synthetical propositions, and other points familiar to the readers of the two *Kritiken* (Pure and Practical Reason). The papers from the more extensive collection (of which this present instalment gives only four out of the total thirteen bundles, *viz.*, those numbered A to D) cover nearly the whole of Kant's literary career. Those of A are mainly mathematical in content: they comprise some papers from the years 1755-63, as well as some from the period 1789-93. The three other bundles (of which D is the bulkiest) are chiefly in reference to the critical period 1783-96, though a few belong to an earlier date. Several of those from C belong to the preliminary sketches for published essays, *e.g.*, the polemic against Eberhard and Schiller. The general drift of the contents of bundle D appears from the recurring heading, "Wider den Idealism": they refer to the change of front, if not of doctrine, which Kant made between the first and second editions of his great work. There are also fragments of an essay on optimism, probably as early as 1754. Besides the biographical interest of these notes, scattered on casual pieces of paper, backs of letters, and the like, they are obviously valuable indications in many cases of the points to which Kant attached special importance.

Immanuel Kant's *Vorlesungen über Psychologie*. Mit einer Einleitung: "Kant's mystische Weltanschauung". Herausgegeben von Dr. Carl du Prel. Leipzig: Ernst Günthers Verlag, 1889. Pp. lxiv., 96.

Dr. du Prel, as mentioned above, p. 289, edits these lectures on Psychology—which form part of Kant's *Vorlesungen über Metaphysik*, first published in 1821—with a view to confirming the mystical doctrine for which he believes that he has already found an inductive basis. The psychology of the *Vorlesungen*, he seeks to show, puts Kant's *Träume eines Geistersehers* in a new light, giving this a turn decidedly favourable to mysticism. Kant's general philosophy, besides, leaves a place open for a mystical doctrine. "The thought of Kant that the perceptible world is only the phenomenon of a for us unknown thing-in-itself, that space and time are only forms of our knowledge, is eminently mystical, and so far one can certainly call Kant a mystic." This, it may be said, is to give the term a somewhat extended sense; but Dr. du Prel certainly proves that Kant refused to deny dogmatically the possibility of the classes of phenomena—including ghosts—to which "modern mysticism" appeals. "The earthly life"—thus the editor expresses his own mystical doctrine—"is only the dream of a transcendental subject" (p. xlix.). Rather curiously, in his last two pages he insists on the danger of mixing up the two kinds of experience, the "transcendental" and that of ordinary life. Since the "transcendental subject" has assumed a new personality for the sake of the discipline that is to be gained by temporary forgetfulness of the antenatal life, and by new modes of experience, mixture of antenatal memories with earthly life would frustrate the purpose it had in incarnating itself. The mystical doctrine of the soul, therefore, while it has a high theoretical value and important ethical applications, is not to be allowed to pass into "practical mysticism" (pp. lxiii.-lxiv.).

System der Ethik, mit einem Umriss der Staats-und Gesellschaftslehre. Von Friedrich Paulsen, a. o. Professor an der Universität Berlin. Berlin: W. Hertz, 1889. Pp. xii., 868 (2 Hälfte).

Dr. Paulsen's name is a guarantee of work at once thorough and readable. This treatise on ethics, with the outlines of a social and political philosophy, though called a system, is only such in the general sense of

a connected and consistent discussion of the main topics of moral inquiry. A short indication of its contents may be given. After an introduction (pp. 1-17) explaining the author's view of the province and methods of ethics (midway between the field of absolute morality and the direction of individual conduct), Book i. (pp. 23-167) presents a summary but highly instructive sketch, first of the dominant ideas of the aim and essence of life, held respectively by the Greeks, the early Christians, and the modern civilised world; and secondly, of the main steps in the development of moral theory taken by the Greek, the medieval, and the modern systems. Book ii., following on this historical survey, discusses (pp. 171-366) questions of principle, the meaning of the cardinal ideas on which ethical argument turns. Such are good and evil, the supreme good or chief end of man, duty and conscience, egoism and altruism, virtue and happiness, and free-will. It includes a special chapter (pp. 218-257) in examination of the arguments for the creed of Pessimism. The governing tendency of this part of the work is its effort to reconcile ideality of aim and tone with a sound realism founded on the critical treatment of experimental data. Book iii. (pp. 369-373), which gives an exposition of the aspects of the moral life, roughly classed under the heads of the individualistic and social virtues (and duties), is full of fine observation and wise suggestion for conduct. Beginning with those fundamental duties to self which, as self-control and reasonableness, constitute the elements of all higher morality, it sets forward what are the things needful to realise the best of life for a being with bodily wants (involving permanent economic means) no less than intellectual; and then deals with the sense of honour, adding a short chapter on the moral aspects of suicide. The social virtues give title to the discussion of benevolence, justice, charity and truthfulness—of which the last is especially full and interesting. Book iv. (pp. 577-861) is devoted to social and political problems. These are considered under the four forms of the common or collective life, *viz.*, the family, social friendship, economical society, and the State. In the third of these divisions (treating of the structure of the social system and its economic bases) there is an ample and fair-minded examination (pp. 698-791) of Socialistic reform-theories and of the Socialist-democratic struggle in Germany. Critical Notice will follow.

Naturforschung und Schule. Eine Zurückweisung der Angriffe Preyers auf das Gymnasium vom Standpunkte der Entwicklungslehre. Von Dr. H. Vaihinger, a. o. Professor der Philosophie an der Universität Halle. Köln u. Leipzig: Albert Ahn, 1889. Pp. xii., 54.

"Superficial occupation with natural science," the author writes at the end of the preface to this reprinted Address (delivered originally before a scientific audience, and now enriched with very copious notes), "may lead to the undervaluing of classical antiquity; but deeper penetration into nature leads back to antiquity." His aim has been to show, by arguments based on the principles of physiological psychology and on the theory of evolution, that humanistic culture such as is given in the classical Gymnasia must remain permanently the basis of higher education. He starts from the biological law of the parallelism of "phylogeny" and "ontogeny". According to the view that regards biology as the foundation of psychology, this law, he proceeds to argue, should be applicable to mind as well as to the physical organism. Its psychological application is evidently this—that the development of the individual mind is a recapitulation of human history. This *a priori* extension of the law of the parallelism of ontogenetic and phylogenetic

development is confirmed empirically by observation of individual minds. The pedagogical inference from it is that the individual can only be raised normally to the level that humanity has now attained if his education is made to follow the stages of the education of the race, that is, the stages of historical development. Now the stages of the history of European civilisation are—(1) the Græco-Roman world, (2) the "Christian Teutonic" middle ages, (3) the modern world. In modern European education, therefore, the classical languages and literature should come first; then modern languages and the part of their literature that has its basis in the mediæval world; while the characteristic product of the modern world, natural science, with its search for exact knowledge of causes, should be introduced last of all. The evolutionary law on which he bases his theory is to be received, according to the author, as in part a confirmation of the doctrine of those pedagogical writers who have held that education should follow the course indicated by nature, and in part as a means of giving—with the aid of the philosophy of history—a greater precision to that doctrine. In his appeal to the authorities, from Aristotle onwards, who have stated in some form the precept that the educator should "follow nature," he finds especially strong support among the scientific authorities. Prof. Huxley and Mr. Spencer, in particular, supply him with sentences which—taken along with his historical view—can be quoted with peculiar effectiveness (pp. 8-9). While contending for the permanence of the classical basis of education, Dr. Vaihinger does not propose to leave the Gymnasium exactly as it is, but suggests several reforms, such as greater attention to physical training and to English literature, the dropping of compulsory writing of Latin essays, and the introduction, in the later stages, of more mathematics and natural science. His arguments all deserve attentive study.

Beiträge zu den Theorieen des Syllogismus und der Induktion. Von Dr. Otto Seiffert. Breslau: Brehmer & Minuth, 1888. Pp. 49.

The author examines the theories of the syllogism and of induction put forth by Mill, Jevons, Sigwart, Erdmann, &c., with a view to arriving at a theory of his own. In his theory of the syllogism he lays stress on its mediating function. This, he contends, rescues it from the charge of being a mere *petitio principii* (pp. 14-16). For "in the syllogism the validity of one, but only of one premiss, is conditioned by the validity of the conclusion" (p. 16). In his theory of induction he seeks to distinguish, from the deductive element that is invariably a constituent of the inductive reasonings of developed thought (p. 38), a purely inductive element, the essential character of which is that every new particular case gives additional probability to the general conclusion (p. 44).

Metaphysik. Eine wissenschaftliche Begründung der Ontologie des positiven Christentums. Von Theodor Weber. Erster Band: Einleitung und Anthropologie. Gotha: F. A. Perthes, 1888. Pp. viii., 427.

The general purpose of the work of which this is the first part is identical with that of the author's criticism of Du Bois-Reymond noticed in Mind xi. 138. The present volume is intended to bring about "a complete reconciliation," so far at least as ontology is concerned, "of knowledge with (religious, old Christian) faith, of reason with revelation, of philosophy with (genuine, true) theology".

Die Welt- und Lebensanschauung Friedrich Ueberwegs in seinen gesammelten philosophisch-kritischen Abhandlungen. Nebst einer biographisch-historischen Einleitung von Dr. Moritz Brasch. Leipzig: Gustav Engel, 1889. Pp. xlvi., 476.

Dr. Brasch has here collected Ueberweg's scattered philosophical writings, and has furnished them with an Introduction (pp. xi.-xlvi.—"Friedrich Ueberweg, his life, his writings and his philosophical importance") in which the various influences under which he came, the general nature of his final conclusions, and his attitude towards the controversies of the time, political, religious and philosophical, are very well described. The collection is full of interest and shows well the many-sidedness of Ueberweg's mind. The papers are brought under the heads of "Logic, Theory of Knowledge and Metaphysics" (pp. 1-260), "Mathematics, Philosophy of Nature and Psychology" (pp. 263-349), and "Ethics" (pp. 353-438); two "Philosophical Addresses" being added in an appendix (pp. 441-476), which treat respectively of the historical place of Jacobi in German philosophy, and of the idea of destiny in Schiller. At the end of the first series is reprinted a "Controversy on the principles of the Berkeleyan Phenomenalism" between Ueberweg on one side and the late Dr. Collyns Simon and two German champions of Berkeley on the other. This extends over pp. 87-260. There are several papers dealing more or less directly with Kant. Ueberweg shared the tendency of his day to return from the later German philosophies to the Kantian criticism of knowledge, but was not content to remain simply a Kantian. The critical philosophy he held to be not a settled result but a "stage of transition" to some new doctrine. The doctrine of "ideal-realism" by which he himself sought to mediate between the mechanical and the idealistic doctrines of later German philosophy shows signs of the influence exercised over him by Aristotle and Leibniz as well as by modern scientific ideas; its most noteworthy point being the view of nature as consisting in a continuous "scale of beings" from mechanical forces up to man. Ueberweg's ethical papers aim at the fusion of Aristotelian with Kantian ethics. The first stage of this fusion he finds in the ethics of Herbart. Kant's "formal" and Aristotle's "material" principle are to be reconciled finally in a doctrine that places the ethical "form" in certain relations to one another of its "matter"—that is, of the "goods" that are ethical ends. The "goods" consist, as Aristotle taught, in certain human activities, and these may be arranged in a scale according to their rank. The formal principle of morality is that the highest of two ends—its accomplishment being supposed possible for the individual—is to be chosen. The morality of the individual, however, does not depend on the rank of the activity chosen, but on the disposition (Gesinnung) in choosing. All activities may be equal in moral rank if the disposition in choosing them is the same. It is this that Kant had in view in his doctrine of the categorical imperative.

Spinoza's Entwicklungsgang, besonders nach seinen Briefen geschildert. Von Dr. phil. A. Baltzer. Kiel: Lipsius & Tischer, 1888. Pp. 169.

The author seeks to trace the development of Spinoza's thought by means of reference to his correspondence and to the circumstances of the time. It is on the point that there *is* a traceable development that he lays stress rather than on any important new conclusions in matters of detail which he believes he has arrived at. By means of the *Letters* he thinks it can be shown that numerous alterations suggested by the criticisms of friends were made in the *Ethics*, the final "redaction" of which probably dates from 1675. Again, in Spinoza's political doctrine he traces an influence of the circumstances and events of the time; the object here being to show that Spinoza was not absolutely a "solitary" thinker, but was in contact with political life. When, however, for this

he supposes that Spinoza may have come into personal contact with Hobbes, he not only has no evidence to produce, but goes straight in the teeth of well-known facts. And his other supposition that Spinoza replies to Leibniz (still at the journeyman stage), in propositions of bk. i. of the *Ethics*, is surely idle enough.

Francis Bacon und seine geschichtliche Stellung. Ein analytischer Versuch von Dr. HANS HEUSSLER, o. Prof. der Philosophie an der Universität Basel. Breslau: W. Koebner, 1889. Pp. 199.

The author, having been led to acquire a very intimate knowledge of Bacon, has arrived at the conclusion that it is an error to represent him as in a special sense the founder of modern empirical philosophy; his view of things being in reality marked by a strongly rationalistic tendency. This he seeks to bring out by comparison with points in the doctrines of "the three great rationalists of the 17th century"—Descartes, Spinoza and Leibniz (pp. 134-7). Points of contact are also found between Bacon and Kant (pp. 138-9). Bacon, the author of course allows, was not exclusively a rationalist; but if stress were to be laid on resemblances with particular thinkers, then, he thinks, modern rationalism might just as easily be traced to Bacon's writings as modern empiricism. What he really did was to announce eloquently the typical modern view of nature, and not the specially rationalistic or empiristic side of this view. The exposition—which touches upon most of the controverted points as to Bacon's life and character, moral and intellectual—is both fluently written and very copiously illustrated with notes and references (pp. 140-199), which show familiarity with the most recent literature.

Karl Philipp Moritz als Aesthetiker. Von Dr. MAX DESSOIR. Berlin: Carl Duncker's Verlag (C. Heymons), 1889. Pp. 57.

K. P. Moritz (1757-1793) has already been made the subject of a biography (by Geiger). His works also have recently been reprinted. The present monograph, which deals with him specially as an æsthetician, presupposes a general knowledge of the facts of his life and a certain familiarity with his principal æsthetic work (*Abhandlung über die bildende Nachahmung des Schönen*, Braunschw. 1788). The author places him in a group with Shaftesbury, Winckelmann and Herder.

Johann Elias Schlegel. Von Dr. EUGEN WOLFF, Privatdocent an der Universität Kiel. Berlin: R. Oppenheim, 1889. Pp. iv., 219.

A biography of J. E. Schlegel (1718-1749), the brother of Adolf and Johann Heinrich Schlegel, giving a full account of his activity as poet and æsthetician. The author regards him as a precursor of Lessing.

RECEIVED also:—

J. Nichol, *Francis Bacon*, pt. ii., Edinburgh, Blackwood, pp. 259.
B. Bosanquet, *Essays and Addresses*, London, Sonnenschein, pp. 199.
F. Lichtenberger, *German Theology in 19th Century*, Edinb., Clark, pp. 629.
Anonymous, *Agnostic Faith*, London, Ridgway, pp. 55.
G. T. W. Patrick, *Heraclitus*, Baltimore, Murray, pp. 131.
W. Cook, *Butler and Kant*, Ann Arbor, Andrews, pp. 52.
E. de Roberty, *L'Inconnaissable*, Paris, Alcan, pp. 192.
J. N. Scherejew, *Selbstsein*, Berlin, Duncker, pp. 144.
L. Weinsberg, *Der Mikrokosmos von J. ibn Zaddik*, Breslau, Koebner, pp. 61.

NOTICE will follow.

VIII.—NOTES.

THE BLIND-DEAF-MUTE HELEN KELLER.

The summary account of this remarkable child's case, given in No. 50 of MIND, from the American journal *Science*, proved, on comparison with the Perkins Institution *Report* for 1887, with a copy of which we were later favoured by the Director Mr. Anagnos, to have been so well drawn up that only a few particulars remained to be added to the psychological chronicle. The child, it may be remembered, lost her sight and hearing by illness at the age of nineteen months. When, after a time, her general health became restored, she had the advantage (over many other sufferers of the same class, though Laura Bridgman, her best-known predecessor, was not ill-off in this respect) of growing up in circumstances not unfavourable to mental development. The hope was not readily abandoned by her well-to-do parents that something might be done to restore the lost senses to a child that showed extraordinary eagerness and ability to make use of the senses that were left her. At last, however, it became clear that, if she were to be regularly educated, it must be done by methods similar to those that had worked such wonders in the case of Laura Bridgman. Being applied to for help, the present able and enthusiastic Director of the Perkins Institution charged one of his female graduates with the task of repeating Dr. Howe's famous experiment. Miss Sullivan, the teacher selected, had herself, only eight years before, been admitted to the Institution at the age of sixteen, suffering from an obscuration of vision which, added to other hardships in earlier years, left her whole education still to be gained. But she proved to be of a character, moral as well as intellectual, that responded admirably to the exertions made on her behalf, and, also recovering in time the use of her eyes by surgical help, she emerged from the training of the Institution fit for any educational work that could be laid upon her. Accordingly, after careful preparation by study of Dr. Howe's methods with Laura Bridgman and otherwise, she repaired to Helen Keller's home in Alabama, and there began the course of education which in a few months led to such astounding results. To the record as given in MIND No. 50, perhaps the only point of importance that needs to be added is that the child first taken (most literally) *in hand* by Miss Sullivan in March, 1887, and able to write her first letter in July, passed between September and October from the use of the third person for herself and others, as in the words 'Helen will write little blind girls a letter, &c.,' to the full pronominal 'Dear little blind girls, I will write you a letter, &c.'. There was also remarkable progress, from July, in grammatical construction generally and in caligraphy, but not such as to leave the first letter other than a marvel in both respects for only four months' instruction. The intelligence that could in that time be so affected—solely and exclusively through hand-contact with the teacher's hand—and that could be rendered thereby so vastly more effective than that of most normally-endowed children, is surely one whose later progress ought to interest every psychologist.

A further *Report*, for 1888, has now come to hand, bringing Helen's story down to October of that year. Here follow what seem the more important points in Miss Sullivan's account:—

During the past year Helen has enjoyed excellent health: she is tall

for her age (8 years), well formed and vigorous. Skilful specialists have examined her and are of opinion that she cannot have the slightest perception of light or sound; the remaining senses have improved. It is impossible to tell exactly how far smell and taste aid her to knowledge of physical qualities, but she certainly derives great pleasure from these senses. Touch has sensibly increased in power, as she is able not only to distinguish with great accuracy the modulations of the air and vibrations of the floor made by sounds and motions, and to recognise friends and acquaintances the instant she touches their hands or clothing, but she also perceives the state of mind of those around her. It is impossible for anyone with whom she is conversing (by contact) to be particularly happy or sad and conceal the fact from her. Whereas, in the previous *Report*, Miss Sullivan had been disposed to credit her with some inexplicable mental faculty, it now appears on closer observation that her power of divining the thoughts of those she is with may be wholly explained by her acute perception of their muscular variations. Recently when her ears were being examined by the aurists at Cincinnati, all present were astonished at her appearing to hear not only a whistle but an ordinary tone of voice: she would turn her head, smile and act as though she had heard what was said. Miss Sullivan was then holding her hands. "Thinking" (says Miss Sullivan) "that in all probability she was receiving impressions from myself, I put her hands upon the table and withdrew to the opposite side of the room. The aurists then tried their experiments with quite different results. Helen remained motionless through them all, not once showing the least sign that she realised what was going on. At my suggestion, one of the gentlemen took her hand, and the acts were repeated. This time her countenance changed whenever she was spoken to, but there was not such a decided lighting-up of the features as when I had held her hand." In this connexion reference is also made to the emotion she showed in first visiting a cemetery in the previous year, though she then had been told nothing about death or the burial of the body. She has now learned that animals when dead are put into the ground, and showed afterwards, on another visit to a graveyard, a surprising grasp of the meaning there of a girl's name which she was made to feel on a marble slab. "She dropped" (says Miss Sullivan) "upon the ground as though looking for something; then turned to me with a face full of trouble and asked, 'Where is poor little Florence?' I evaded the question, but she persisted in asking about her. Turning to my friend, she asked, 'Did you cry loud for poor little Florence?' then she added, 'I think she is very dead. Who put her in big hole?'" And, on returning to the house of this friend, mother of the dead Florence, though of this the child had known nothing, she ran to the closet where were some toys that had been given her the evening before, and carried them to the lady, saying, 'They are poor little Florence's'—which was perfectly true.

Notwithstanding the activity of Helen's mind, she is a very natural child, fond of fun and frolic. She likes much to be with other children, and is never fretful and irritable; playing for hours together with children who cannot understand a single word she spells. A baby invariably calls forth all the motherly instincts of her nature. While delighting to be with people who can follow the rapid motions of her fingers, she will yet amuse herself for hours at a time with her knitting or sewing. She reads a great deal, bending over her book with a look of intense interest, and, as the forefinger of her right hand runs along the line, she spells out the words with the other; but often her motions are so rapid as to be unintelligible even to those accustomed to her

swiftness. Extremely affectionate herself, she does not realise that one can be anything but kindhearted and tender. She is very fond of all the living things at home, and will not have them unkindly treated: for example, not allowing the driver to use the whip, when she is riding in the carriage; and, though at first angry on hearing that the birds and bees were eating all her father's grapes, quickly pleased when told that they were hungry and did not know it was wrong.

She continues to make rapid progress in language, having now a vocabulary of about 3000 (!) words, all of which she spells correctly and uses with astonishing freedom. She seems always to think in words; and in sleep her fingers go on spelling the confused and rambling dream-thoughts. She soon discovered, in manual converse with the many people she has come into contact with (at Boston and elsewhere) during the year, that "the words she began to learn a year and a half ago were capable of expressing, not only her physical needs, but also her mental sensations and emotions, and of describing her many and varied experiences, as well as conveying her wishes and thoughts, her dreams and fancies, her hopes and fears". In travelling, her thirst to be told what her teacher sees by the way is insatiable, and thus she learns countless new expressions without any apparent effort. At first, in speaking, she was apt to use only the important words of a sentence, as 'Helen, milk,' but easily was helped over this tendency, and quickly learned that the same idea could be expressed in a variety of ways. Miss Sullivan believes it was more through association and repetition than through any explanation (from which she was in the first instance obviously precluded) that she has attained her remarkable power, for a child, of intelligently using names of abstract or subjective import. "One day" (says Miss S.) "I asked her a very simple question in the combination of numbers, to which I was sure she could give a correct reply. But she began, as children often do, to answer at random. I checked her, and she stood still, the expression of her face plainly showing that she was trying to think. I touched her forehead, and then spelled t-h-i-n-k. It was the first time I had given her the word; but, being thus connected with the act, it seemed to impress itself on her mind much as if I had placed her hand on an object and then spelled its name. Since that time she is always using the word 'think' intelligently." She has not been taught language on any system, but in dependence on the suggestions afforded by the spontaneous movements of her own mind. And here may be noted the facts which also Mr. Anagnos (who has seen the child at her home as well as in Boston, and who is one of her chief correspondents) tells of her extraordinary linguistic aptitude. French and German, Latin and Greek words and phrases have, upon occasions that a common child would pass by, been extracted by her from him and Miss Sullivan, and the "little witch," as he calls her, is found retaining them months afterwards and using them with the utmost propriety and exactness in the midst of her excellent English writing.

In point of general intellectual growth, it is reported that, while regular instruction has been stopped in order to avoid unduly exciting her over-active brain, she continues as eager to learn as at first and in every direction that opens up. She has been encouraged to put her thoughts on paper and keep a diary, in which the impressions crowding in upon her get record of this kind:—'Teacher and I went to ride in a boat. . . . Boat did glide swiftly, and I put hand in water and felt it flowing. . . . When we look around us we see land and the water. The land is firm and solid. We walk and ride over it we build our

houses upon it we sow seeds in it and soon it is covered with young plants. . . . The water is not solid and it is not firm we cannot walk or ride in carriages over it and we do not build houses upon it. But we can build ships and boats to carry people upon the water. The earth is round like a very large ball. It is always whirling round. It never stops for a minute. . . . To-day I learned many new words. . . . *Family* is father and mother and brothers and sisters. *Daughter* does mean girl child, *son* does mean boy child. *Observe* means to look at everything very carefully. I observed teacher's hair was coiled this morning.' Take also this from Miss Sullivan:—On a visit to a circus with wild animals, "I tried to describe to her the appearance of a camel, but as we were not allowed to touch the animal I feared that she did not get a correct idea of its shape. A few days afterwards, however, I became satisfied that she had made a very good mental picture of it; for, hearing a commotion in the schoolroom, I went in and found Helen on all fours with a pillow so strapped upon her back as to leave a hollow in the middle, thus making a hump on either side. Between these humps she had placed her doll, to which she was giving a ride round the room. I watched her for some time as she moved about, trying to take long strides in order to carry out the idea I had given her of the camel's gait. When I asked her what she was doing, she replied, 'I am a very funny camel'." Instances of her abounding interest in everything and everybody she came across in travelling are given at considerable length, but must be passed over; also curious specimens of her reproduction of stories she has read. Room, however, must be found for the following (from Mr. Anagnos):—"One day a number of persons were shown by Miss Moulton, the matron of the Institution, a crystal lemon-squeezer of new design, and all tried in vain to guess what it was. It had never been used, and its shape failed to suggest to anyone its purpose until Helen examined it. She immediately spelled 'lemonade,' and wished for a tumbler in which to prepare some. When the glass was brought she put the squeezer in proper position upon it. On being closely questioned as to what had suggested to her an idea which the adults around her had failed to catch, she twice put her hand to her forehead, and spelled 'I think'." Where there is an intelligence like that, one can believe that before her regular lessons were stopped in last March, she made considerable progress in arithmetic; learning the multiplication-table and doing sums in her head. She learned also to represent numbers on the type-slate used by the blind; and, though at first it was difficult for her to understand that the types represented so many apples and oranges, she after a few days overcame this obstacle, and was incessantly puzzling her brain with examples; even in bed her thoughts still dwelling upon numbers till she became so excited that she could not sleep.

At Boston, where a kindergarten has now been founded (to the great advantage of blind children) in connexion with the Perkins Institution, Helen, after a few lessons, could model in clay very well, and also learned bead-work very quickly. It is mentioned, however, that, though, like other children, she examines every object within her reach to ascertain its size, shape, density and use, her judgment of distances and of the relation of places to each other is less accurate than that of blind persons in general; she often has been seen to make the circuit of a room several times in searching for some article she had just laid on a chair or table. In this and also in other respects there is a remarkable difference between her and another blind-deaf-mute little girl, who is now under training at the Perkins Institution. This child, Edith M. Thomas, a year older than Helen Keller, had her senses till

the age of four, and this fact *may* help to account for what is reported of her—that she is remarkably quick and fearless in her movements both out of doors and in the house, having soon learned her way about the building, and now going alone, with the greatest freedom, in search of whatever she wishes for. Her perception of the situation and the relation of objects around her is very accurate, and so is her judgment of distances. A month after being in the kindergarten, "on returning from a walk of about a mile, she put out her hand to find the gate when only two or three rods away from it". With this, in her case, there goes also much finger-skill; but, whereas Helen Keller from the first moment of her verbal education (see MIND xiii. 316) was eager to pass from object to symbol, and in little more than a week understood that all things could be expressed by (manual) signs, Edith could not easily be brought to interest herself in the manual alphabet, and took two weeks before she would make any letters with her own fingers. The restraint of regular occupation, even for half-an-hour, she violently resisted; and thus may be understood how after ten weeks she had learnt but 43 words, and at the end of a year (or, more properly, nine months' actual instruction) not more than 400,—though, all things considered, even this achievement is remarkable enough. With inferior verbal aptitude, which shows itself also in her handwriting (but not in any defect of spelling, so far as her vocabulary extends, since "she must spell a word every time she uses it"), Edith shows no common force of character, and in particular shows, in connexion with the mischievous or other unsocial impulses natural to a child of exceptional vigour, a quite pathetic determination to struggle with and conquer them. When some temptation has come in her way, she has unawares been seen straining every effort to overcome it—"striking herself violently and repeatedly, sometimes throwing herself on the floor, kicking and pounding"—and always successfully in the end "if left entirely to herself".

Enough has now been said (mostly quoted) to show what a fund of psychological interest is again, since Dr. Howe's death, to be looked for in the Perkins Institution *Reports*. The future history of these two children, so different in their natures but now subjected to a systematic training the same in principle, cannot be too closely watched.

EDITOR.

ON THE PHILOSOPHIC TERM, PHENOMENON.

Every Greek scholar knows that the verb φαίνεσθαι has different meanings with an infinitive and with a participle, signifying, for example, with εἶναι, 'to appear to be,' with ὄν, 'to evidently be'. This double construction gives a twofold meaning to τὸ φαινόμενον, which signifies either 'what appears' or 'what evidently is'. Hence, Aristotle uses the term in a variety of ways: for the apparent as distinguished from the real good (*Eth. Nic.*, iii. 4), for appearances in our eyes as opposed to the perfect sphericity of the world (*De Cœlo*, ii. 4), for all appearances to sense (*ib.*, iii. 4), for facts in contrast to their causes (*De Part. Animal.*, i. 1). Once he even seems to call the intelligence of God the most divine of phenomena (*Metaph.*, lib. 9). In short, τὸ φαινόμενον, sometimes opposed as it is to a thing and sometimes signifying a thing which evidently exists, oscillates between subjective appearance and objective fact. This ambiguity has produced an equivocation in the modern term, phenomenon. Sometimes a phenomenon means an appearance in our senses, usually supposed to be produced by a thing: in this meaning, only sensible objects are phenomena. Sometimes a phenomenon means

anything whatever as a fact opposed to its causes; in this meaning, phenomena include all facts, sensible and insensible. The former is the use of Kant, who expressly identifies phenomena with *Sinnenwesen* (*K. d. r. V.* "Von dem Grunde der Unterscheidung . . . in Phaenomena u. Noumena"); whereas Newton used the term in the latter and wider way. Book iii. of the *Principia* cites as phenomena the movements of planets round the sun, in the sesquiplicate proportion of their mean distances from the sun, and describing, by radii drawn to the sun, areas proportional to the times. Such measured movements of planets are quite imperceptible, and are called phenomena, not as being sensible, but as facts in contrast to gravitation, which is their cause. By phenomena, then, Kant means sensible appearances; Newton, all facts, sensible and insensible.

The former meaning has established itself in mental, the latter in natural philosophy. But it makes all the difference which we mean. Mental philosophers, after starting with the narrow use of Kant, take advantage of the comprehensive use of Newton to decide that all objects of knowledge are phenomena. In the Newtonian use this identification is true; in the Kantian it is false. Everything known is an evident fact. But, as very few of such facts in the sciences are patent to the senses, it neither follows, nor is true, that everything known is a sensible appearance. Yet it is to be feared that much of modern philosophy is founded on a transparent fallacy of equivocation, in which the major premiss takes phenomenon as sensible appearance, while the minor uses the same term for any fact, sensible or insensible, as follows:

All *phenomena* are sensible appearances;
All objects of knowledge are *phenomena;*
∴ All objects of knowledge are sensible appearances.

THOMAS CASE.

A NEW ANTHROPOLOGICAL METHOD.

Dr. E. B. Tylor has just published, in the February No. of the *Journal of the Anthropological Institute*, under the title "On a New Method of Investigating the Development of Institutions; Applied to Laws of Marriage and Descent," a paper of exceptional interest and importance. The results at which the author arrives in the particular field investigated would by themselves be sufficient to make the paper a remarkable one. It is not, however, on the results, interesting as they are, but on the new method by which they are attained, that Dr. Tylor insists both in opening and in concluding; and it is this method that an attempt will be made here briefly to describe.

The distinction of the method is that by it causal relations among social facts are discovered which may be regarded as scientifically certain previous to any psychological deduction. Thus speculative explanation, when it begins, is "at once guided in its course and strictly limited in its range by well-marked lines of fact to which it must conform". Scientific certainty merely from comparison of the facts is attained by their strict numerical treatment on a basis of tabulation and classification—a basis which the author has spent many years in providing. Suppose a provisional classification of the customs of between three and four hundred peoples to have been made, and the mutual "adhesions," or relations of coexistence, of these customs to have been tabulated, then, starting with any two customs, we have to find (1) the number of their "adhesions," (2) the number of times they would coexist

according to the ordinary law of chance-distribution. The first number is ascertained from the tables, the second calculated from the total number of peoples classified and the number of occurrences of each custom. If the actual number of "adhesions" is much greater than the number of chance-coincidences obtained by calculation, then we may infer at once that there is some causal connexion between the two customs. A provisional explanation of the connexion may be hazarded in accordance with the assumption that human nature in all stages of social development has certain general psychological resemblances. This will indicate inquiries as to causal connexions with other customs. When new causal connexions have been ascertained, the first explanation may, if necessary, be revised. The determination of causal connexions, as it proceeds, will react on the material, suggesting improvements in classification and the ascertainment of new data. In the meantime the author considers himself justified in stating, as the result of the application already made of his method to the matter in hand, that "the institutions of man are as distinctly stratified as the earth on which he lives. They succeed each other in series substantially uniform over the globe, independent of what seem the comparatively superficial differences of race and language, but shaped by similar human nature acting through successively changed conditions in savage, barbaric and civilised life."

The special subject of the paper is, as the title indicates, the formation of laws of marriage and descent. A beginning of the investigation is made by inquiry as to the causal connexions of a particular custom of "ceremonial avoidance" between husbands and their wives' relatives. The number of "adhesions" of this with the custom of residence of the husband with the wife's family is ascertained from the tables, and, by calculation in the manner described, the existence of a causal connexion between the two customs is proved. An explanation of this connexion is suggested, and the connexions of these with other customs are investigated. On comparison of the results, the only conclusion consistent with the relations established is found to be that the direction of the social movement is from permanent residence of the husband with the wife's family, through an intermediate stage of residence followed by removal, to residence of the wife on the husband's side from the first. The next problem taken up is that of the order in which the matriarchal or "maternal," the patriarchal or "paternal," and the intermediate or "maternal-paternal" systems of kinship have succeeded one another. By determination of the connexions of each system with the customs of the 'levirate' and the 'couvade,' it is established that "the distribution of customs is only compatible with a tendency of society to pass from the maternal to the paternal system". This result is brought into comparison with the result as regards residence, and, by further application of the method, the movements from the maternal to the paternal system, and from residence on the wife's to residence on the husband's side, are found to be causally connected. The hypothesis now suggests itself "that in the one simple fact of residence we may seek the main determining cause of the several usages which combine to form a maternal or paternal system"; and the actual movement, if determined by this cause, is found to be "consistent with what our knowledge of human nature would lead us to expect". The author next seeks to discover the connexions of "marriage by capture" with the three systems of kinship and with exogamy; going on afterwards to investigate the connexion of this last with "classificatory relationship". No causal connexion of capture with exogamy is dis-

covered; but exogamy and classificatory relationship are found to be so connected that they may be regarded as "two sides of one institution". Lastly, a conjecture, based on this result and on the records of observers, is thrown out as to the origin of exogamy.

The outline of the general course of the author's argument given in the foregoing paragraph, meagre as it is, may perhaps help to make clear the mode of application of the method. It can of course convey no idea of the art with which the development of institutions is traced out in the paper itself.

THOMAS WHITTAKER.

PROF. O. N. ROOD, ON COLOUR-CONTRAST.

Prof. Ogden N. Rood, of Columbia College, New York, whose valuable work in reference to the physics of colour is well known, announces certain results as the outcome of an exhaustive quantitative evaluation of colour-contrasts, which cannot fail to prove valuable and suggestive to psychologists. The detailed account of his work will appear in *The American Journal of Science.*

(1) The commonly entertained notion that the effect produced upon any colour A by contrast with any other colour B is identical with the effect which would be produced by the superposition upon A of B's complementary colour, he finds not to be borne out by the facts. The two sets of phenomena approach one another so closely in certain parts of the spectrum that the common basis of the two has not unnaturally been accepted. But in certain parts of the spectrum the difference between the contrast-effect and the proper complementary colour is so marked that the observer not only finds no difficulty in distinguishing the two, but is able to remember the difference from one day to the next, and to pick out the two colours and distinguish them correctly. This difference is most marked in the blue-violet region of the spectrum. This result in a general way leads us to consider retinal fatigue as an element of less importance in the production of colour-contrast than it is generally supposed to be, tends to emphasise the importance of elements of higher mental activity, and indirectly bears against all over-emphasis of action in terminal organs in the consideration of mental complexes. This over-emphasis now appears in many directions as a marked and evil result of the generally valuable psycho-physic study, which in late years has become so important a part of psychology.

(2) The other result brought out by Prof. Rood's experiments which is of special interest to the psychologist is the fact that contrast-effects are not at all of equal intensity in the different regions of the spectrum. The contrast-effects produced by colours of the red end of the spectrum are of much less intensity than those produced by the greens and blues. The colours approaching the violet end produce less contrast-effect than those in the region of the green, but more than those towards the red end. This is a fact which could not be looked for under Young's theory of colour; but, apart from the value which it is likely to have in the determination of the Helmholtz *v.* Hering controversy as to the physical basis of colour-sensations, it seems probable that here too we are likely to find an argument in favour of the greater importance of higher psychic action in those exceedingly complex psychoses which seem so simple when we call them colour-contrasts. The experiments seem to show indications of the existence of a relation between the effects of contrast and the vividness of the field of attention which may lead to generalisations of value.

HENRY RUTGERS MARSHALL.

PSYCHOLOGY IN RUSSIA.

A Russian society for the study of Psychology has now been in existence for four years. M. Lutoslawski, who is one of the members, sends at the request of the President an interesting and very full account of the constitution of the Society, of its proceedings from the beginning, and of the work it has in prospect. Limits of space forbid the printing of the whole, but a summary is given based on M. Lutoslawski's communication. The Psychological Society of Moscow was founded on 24th Jan., 1885. Its foundation was due chiefly to the initiative of Prof. Troitski, who then held the philosophical chair in the University of Moscow. It has at present 140 members (of whom 118 are "active") and numbers among its honorary members Profs. Bain, Ribot and Wundt. Though founded with a view to the special study of psychological science, it has not been able to maintain the specialist character, but, while not ceasing to be psychological (as is shown by the titles of the papers read), has had to appeal to general philosophical interests. The first subject to excite lively discussion was, indeed, that of Free-will; and the Society is now on the way to become a *Philosophical* Society. At present what is aimed at is mutual understanding on fundamental questions. Different views as to psychological method, for example, have been laid before the Society by Prof. Troitski and by Prof. N. Grote (who has succeeded him in the presidency of the Psychological Society as well as in the chair of Philosophy at Moscow); the former insisting more on the importance of the new "physiological psychology" and the latter on the scientific value of what has been done already by the "metaphysicians". The general tendency of the discussions, it is thought, has been away from the exclusively "positivistic" theories. Desire for independent thinking—thinking independent of "the authorities of the West"—has come to be more and more felt; and with a view to its satisfaction the first Russian philosophical journal is this year to be started, under the direction of the President, who will be aided by the collaboration of many of the members. The Review will be at the same time the organ of the Society, and will reproduce the more important discussions. Finally, one of the members, M. N. Stolipine, has made a gift to the Society of 2000 roubles, for distribution in prizes to be offered for the best works attempting the solution of a philosophical question. Last year the centenary of Schopenhauer's birth was celebrated by discourses on his life and various aspects of his philosophy. Among other contributions, papers were read in the course of the year on "Psychological Research in Wundt's Laboratory at Leipsic," "The Relation between the Methods and Aims of Philosophy and Psychology," "Hypnotism," "Mental Suggestion," "Morals and Æsthetics".

The Aristotelian Society for the Systematic Study of Philosophy (22 Albemarle Street, W.).—Since last notice the following papers have been read:—Dec. 17, by Mr. G. J. Romanes, F.R.S., on "The Doctrine of Moral Responsibility"; Jan. 14, by Mr. M. H. Dziewicki on "The Standing-point and First Conclusions of the Scholastic Philosophy"; Jan. 28, by Professor A. Bain, LL.D., V.P., on "The Empiricist Position"; Feb. 11, by the Rev. J. Lightfoot, D.Sc., on "The Philosophy of Revelation"; and Feb. 25, by Mr. B. Hollander. "Do separate psychological functions require separate physiological organs?"

Karl v. Prantl, author of *Die Geschichte der Logik im Abenlande* (4 vols., 1855-70) and other works, professor at Munich from 1859, died in September, 1888. He was born at Landsberg am Lech in 1828.

IX.—FORTHCOMING WORKS. FOREIGN PERIODICALS.

Principles of Empirical or Inductive Logic. By JOHN VENN, Sc.D., F.R.S., Lecturer in the Moral Sciences, Gonville and Caius College, Cambridge. London: Macmillan & Co. Pp. 590.

"This presently forthcoming volume contains the substance of lectures delivered for a number of years in Cambridge: at first to members of Caius College, but afterwards, in accordance with the inter-collegiate lecture system, to students in the University generally. The form in which they here appear is, of course, new; the arrangement having been entirely recast, and every attempt made to bring them up to date. The reader will probably find that here—as in the case of most writers of the middle generation, and especially most of those who approached the subject of Logic with some previous physical and mathematical training—the dominant instigating influence was that of Mill. But he will readily see that that influence has assumed subsequently the attitude of criticism quite as much as that of agreement; and that, in fact, the points of divergence from that author are numerous and important. The fundamental conception of the nature and province of Logic, as here expounded, is rather that of Physical Science than that of Metaphysics or Psychology; and the treatment aimed at throughout is constructive rather than critical or historical. The general attitude towards phenomena adopted is substantially that with which Mill first familiarised English readers—the attitude, that is to say, which postulates an external world, distinct from the logician, and which it is his business to reduce to order, with the view of drawing inferences about past, present and future events. The divergences from Mill's treatment are largely the result of an attempt to carry out this attitude more consistently, to meet the principal speculative difficulties which it encounters, and to revise it by the results of evolutionary and other modern scientific conceptions. The attempt thus indicated has demanded some departure from the traditional treatment of Logic partly in respect of what has been omitted, but principally in respect of what has been inserted. Some of the more important problems included under the latter heading may be summarised as follows:—A general statement and description of the main postulates which a Material or Objective Logic has to demand from Psychology, Metaphysics, Science and elsewhere; postulates always implicitly involved but seldom explicitly enunciated (c. i.);—The Law of Causation as it is required, and practically employed, for inferential purposes, and in its relation to the general Uniformity of Nature (cc. ii.-iv.);—The Hypothetical Judgment, its origin and foundation in human experience (c. x.);—Scientific Definition (c. xi.);—Analysis and reconsideration of the Four Methods of Inductive Inquiry (c. xi.);—The processes of Hypothesis, Analysis and Synthesis, as demanded in Material Logic (c. xvii.);—Standards and Units, physical and psychical (cc. xviii., xix.);—The data of Geometry; certain difficulties connected with their conception and application (c. xx.);—Attempts at the introduction of a Universal or Perfect Language (c. xxii.);—Extensions

of our general powers of Observation, regarded as a sort of control over Space and Time (c. xxiii.);—The Ideal of Logic and Methodology, or the degree of perfection at which we can hope to aim (c. xxiv.);—Speculation and Action, or the logical and scientific view of the world, as modified by our practical tendencies (ch. xxv.)."

Moral Order and Progress: An Analysis of Ethical Conceptions. By S. ALEXANDER, Fellow of Lincoln College, Oxford. London; Trübner & Co. Pp. xxiv., 412.

"This presently forthcoming work is an account of the various elements contained in the phenomena of order and progress which are shown to be essential to morality. Its method is that of grouping ethical facts under the main working conceptions used in practice. The author discusses ethical data for themselves, and, while discarding metaphysics, takes up an independent position towards biological ideas. But, though he insists on the characteristic differences of moral action, the result of the book is to confirm the theory of Evolution, by showing that these differences are such as should be expected if that theory were true. In the preface the author writes that he has come to these biological ideas as employed in Ethics with a training derived from Aristotle and Hegel, and has found not antagonism, but fulfilment. The work falls into three books. Book i. is preliminary and discusses the nature of Conduct and Character, examining their different elements in relation to one another; and it concludes by defining, on the strength of this analysis, the relation of Ethics to the kindred sciences, the Natural Sciences, Psychology and Metaphysics. Book ii. is entitled 'Moral Order,' and deals, in two parts, with the Statics of morality, traversing the field usually covered by ethical treatises. The first part is mainly occupied with the question 'What is meant by calling an act good or bad?' The answer given is that goodness means equilibrium or proportion between persons in a society, or functions in an individual. The second part discusses the Moral End. The standard of equilibrated conduct is shown to be prior to and to include other criteria, such as perfection, pleasure, vitality, the nature of which is discussed later on. Book iii. is Dynamical, and treats of 'Moral Progress'. Having explained morality to be in constant and continuous change, the author attempts to prove that moral distinctions arise by a process the same as that which produces species in the organic world, by a struggle, not between societies, but between *ideals*. He next deals with Punishment, Responsibility and Education, the institutions for the 'Maintenance of Moral Ideals'; and then carries out the idea of a struggle of ideals, using it to account for the historical phenomena of morality, discussing the question of the criterion, and attempting to explain the law of progress. Finally, he raises the question whether duty is the highest moral principle. The work is founded on a dissertation for which the author obtained the Green Moral Philosophy Prize at Oxford in 1887."

First and Fundamental Truths. By JAMES M'COSH, D.D., late President of Princeton College. London: Macmillan & Co. Pp. 350.

"The author of this presently forthcoming work believes that, as Aristotle has determined in his logic the laws of discursive thought, so it is possible in metaphysics to ascertain the nature and the laws of primitive or fundamental thought. He has enumerated and classified these primary truths, and examined them carefully under the head of

Cognitions, Beliefs and Judgments. He has given the tests by which they are easily distinguished from all other and derivative truths; they are Self-Evidence, Necessity and Catholicity. He shows that these first principles, as intellectual and moral, are involved in the practical affairs of life, and in all the sciences, even the physical. In conducting this investigation, he avoids scepticism on the one hand, and idealism on the other. He separates himself from that English School which, following Hume and John S. Mill, deny that there is any fundamental truth, and from the German School of Kant, who maintain that we know things only under forms imposed by the mind, a doctrine which has led to a more formidable scepticism than that of Hume. In doing this, he is seeking to establish a Realistic Philosophy which he says ought to be the special American Philosophy".

American Journal of Psychology.—Vol. ii., No. 1. E. C. Sanford—Personal Equation (i.). W. H. Burnham—Memory, historically and experimentally considered (i.). ["An Historical Sketch of the Older Conceptions of Memory."] M. P. Jacobi—The Place for the Study of Language in a Curriculum of Education. [Systematic training of the senses should come first (up to the age of 7), then language (from 7 to 14 or 15), and lastly science. Several European languages (among them Greek and Latin) are to be studied simultaneously, their mutual relations making it possible thus to economise the time spent in learning each. When the power of reading has been acquired, and not till then, grammar should be systematically taught. The abstractions of language being the condition of all other abstractions, the discipline of grammar is the best introduction to the study of science in general, which may now follow.] Psychological Literature (The Nervous System; Experimental; Abnormal; Miscellaneous). Notes.

Revue Philosophique.—An. xiv., No. 1. P. Janet—Introduction à la science philosophique. iv. Rapports de la philosophie et de la théologie. F. Paulhan—L'abstraction et les idées abstraites (i.). C. Dunan—Un nouveau cas de guérison d'aveugle né. [The author describes experiments on the visual perceptions of a girl of thirteen who has been successfully operated on for congenital cataract. The principal facts brought out are that ten days after the operation the contours of objects were distinguished by the eye alone, but that scarcely any progress had been made towards perception of distance. From the results of his observations the author argues that "vision, at least that of superficial extension, owes nothing to the muscular sensations occasioned by the movement of our limbs".] Rev. Gén. (P. Tannery—Travaux récents de philosophie mathématique et de psychophysique). Analyses, &c. Rev. des Périod. Société de Psychologie physiologique (Burot—De l'auto-suggestion en médecine légale). No. 2. Ch. Lévêque—L'esthétique musicale en France. Psychologie du quatuor. A. Binet—Recherches sur les altérations de la conscience chez les hystériques. [The special points studied in this paper—which is one of a series interrupted a year and a half since—are the production of movements and perceptions in hysterical subjects by excitation (unknown to the patient) of an anæsthetic limb. An attempt is made to determine the relations of the

conscious and unconscious elements in the perceptions.] F. Paulhan—L'abstraction, &c. (fin). [The author seeks to trace the development of abstract ideas, not from "the concrete," but from a certain formless primitive state in which concrete and abstract are alike involved. Points discussed by him are the abstraction of the immaterial soul—which, he contends, is never cleared altogether of ideas of a material substratum—and the general "tendency of the concrete image to be preserved and to reappear as soon as the occasion presents itself"; this last point being illustrated from literature.] Notices bibliog. (F. Darwin, *Vie et correspondance de C. Darwin*, ii., &c.). Correspondance (M. Blondel—L'agrandissement des astres à l'horizon). Rev. des Périod. Société de Psych. physiol. (Dufay—La vision mentale ou double vue dans le somnambulisme provoqué et dans le somnambulisme spontané). No. 3. F. Evellin—La pensée et le réel. [An argument against phenomenalism on the grounds that its "law of dispersion without limit" makes all synthesis impossible, and that the phenomenon, since it is necessarily "inert," must yield the primacy, as principle of explanation, to "being," which is necessarily "active".] H. Beaunis—La douleur morale. [All physical pain is accompanied by some mental pain (douleur morale), and all mental pain by some physical pain. The physiological reason of this is that physical and mental pains have their seat in lower and higher nervous centres respectively, and that there is irradiation from the lower into the higher and from the higher into the lower. Pains of each kind may be subdivided into pains of (1) fatigue, (2) inhibition, (3) inaction. Mental pains generally may be divided into "emotional" and "intellectual" pains.] P. Regnaud—L'évolution phonétique du langage. [In opposition to the "neo-grammatical" school, the author contends that phonetic changes have their origin, not in a kind of "epidemic," but in "individual defects of pronunciation" voluntarily imitated. The new sounds that are imitated are always such as require less expenditure of muscular effort than the old ones.] Analyses, &c. (A. Bain, *English Composition and Rhetoric*, &c.). Rev. des Périod. Correspondance (G. Vandame et P. Tannery—Sur la notion de temps). Société de Psych. physiol. (L. Manouvrier—Les premières circonvolutions temporales droite et gauche chez un sourd de l'oreille gauche).

La Critique Philosophique (Nouv. Sér.).—An. iv., No. 12. Réponse de M. W. James aux remarques de M. Renouvier sur sa théorie de la volonté. C. Renouvier—Quelques mots sur la lettre qui précède. . . . H. Bois—Une leçon d'ouverture. Kant—*Les Principes métaph. de la science de la Nature*, c. ii. (trad.). An. v., No. 1. C. Renouvier—Victor Hugo. Le poète et le songeur (i.). H. Dereux—Du fondement de la morale d'après Herbart (ii.). L. Dauriac—Pessimisme et stoïcisme. [The author contrasts the consistency of the Stoics, in respect of the relations between their theory and practice, with the inconsistency of modern pessimists.] . . . Kant—*Les Principes*, &c., c. iii. (trad.). No. 2. C. Renouvier—Victor Hugo, &c. (ii.). [This, with the article in the preceding number, makes up the first chapter of a literary and philosophical study of Victor Hugo. The mythological genius, or personifying imagination,—present to a degree of which the ancients themselves, in the time of Horace and Virgil, had long since ceased to have examples,—is what the author so far finds to be most characteristic of Hugo as a poet.] C. Dollfus—Un apôtre. [The "apostle" who is here made to expound his ideas is an enthusiast for the survival of the fittest as promoted by nature in the "struggle for

life ".] G. Mille—Rôle de l'objet et du sujet dans les théories grecques de la connaissance. C. Renouvier—Léon Penchinat. . . . Kant—*Les Principes*, &c., c. iv. (trad.).

Rivista Italiana di Filosofia.—An. iv. 1, No. 1. R. Mariano—La persona del Cristo. N. Fornelli—La pedagogia e l' insegnamento classico. V. Benini—L' avvenire dell' estetica (i.). [The author discusses the future of art as affected by science. In the present article he states the case of those who regard the spirit of modern science as hostile to art.] S. Fimiani—Alcune osservazioni su la relazione tra il νοῦς e la ψυχή nella dottrina filosofica di Anassagora. [An attempt to show that Anaxagoras did not, as is related by Aristotle, identify the νοῦς with the ψυχή, but distinguished the former as intellectual from the latter as sensitive.] Bibliografia, &c.

Rivista di Filosofia Scientifica.—Vol. vii., No. 11. G. Marchesini—La naturalità del "pensiero". V. Grossi—La cremazione fra i moderni non-Europei. Riv. Gen. (N. Colajanni—Concetto e limiti della sociologia criminale). Riv. Bib., &c. (E. Spencer, *I primi principii;* B. Bosanquet, *Logic;* D. Kay, *Memory*, &c.). No. 12. R. Ardigò—La scienza sperimentale del pensiero. G. Dandolo—L'inconscio fisiologico e la psicologia del sonno. Note critiche e communicazioni. Riv. Anal. Riv. Bib., &c. Vol. viii., No. 1. E. Morselli—L'evoluzionismo monistico nella conoscenza e nella realtà. [From a forthcoming work on General Anthropology.] L. Maggi—La trasformazione della specie microbica. Note critiche, &c. (F. de Sarlo—La filosofia, la scienza e il Darwinismo. [An argument, based on Prof. Angiulli's *La Filosofia e la Scuola*, for the recognition of philosophy in its distinction from special science.]) Questioni del Giorno (G. de Mortillet—Riforma dei programmi d'insegnamento nelle scuole primarie e secondarie). Riv. Anal. Riv. Bib., &c.

Zeitschrift für Philosophie, &c.—Bd. xciv., Heft 2. H. Siebeck—Die Anfänge der neueren Psychologie in der Scholastik (ii.). [With this article the author arrives at Duns Scotus, whom he finds to be of special importance in relation to the beginnings of modern psychology; no one else since Augustine, within the limits of the traditional framework of Scholasticism, having made so many good, and at the same time independent, psychological observations.] R. Manno—Wesen und Bedeutung der Synthesis in Kant's Philosophie (Schluss). R. Seydel—Albert Langes geometrische Logik. J. Witte—Die simultane Apprehension bei Kant. Recensionen, &c.

Philosophische Monatshefte.—Bd. xxv., Heft 3, 4. Th. Lipps—Psychologie der Komik (iv.). E. König—Maine de Biran, der französische Kant. [A comparison between Maine de Biran's and Kant's doctrine of "the spontaneity of the subject". Kant's "spontaneity" is viewed as an epistemological hypothesis, Maine de Biran's as a psychological fact, discovered independently of Kantian influences and by a method different from the Kantian.] A. Elsas—Das Princip der Erhaltung der Energie. P. Natorp—Zur Philosophie und Wissenschaft der Vorsokratiker. [A critical review of M. Paul Tannery's *Pour l'Histoire de la Science Hellène.* While bringing out appreciatively the merits of M. Tannery's book and accepting some of his new results, the author defends the more usual opinions against the "revolutionary" positions taken up in it on some special points.] Litteraturbericht (D. Hume, *Eine Untersuchung in Betreff des menschlichen Verstandes*, übers. von J. H. v. Kirchmann, &c.). Bibliographie, &c.

ZEITSCHRIFT FÜR VÖLKERPSYCHOLOGIE U. SPRACHWISSENSCHAFT.—Bd. xix., Heft 1. L. Erhardt—Zur homerischen Frage. K. Schultz—Die Rede (ratio, λόγος). [On the fundamental place of the idea of God in the history of thought.] W. Schwartz—Die melkenden Götter bei den Indogermanen. K. Borinski—Zur Legende von Robert dem Teufel. [An attempt to identify "Robert the Devil" with Robert Guiscard.] Beurteilungen.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE.—Bd. xiii., Heft 1. A. Meinong—Ueber Begriff und Eigenschaften der Empfindung (Schluss). K. Lasswitz—Galilei's Theorie der Materie (Schluss). F. Staudinger—Identität u. Apriori (i.). [The first part of an inquiry into the grounds for assigning objective validity to inferences drawn from "already formed concepts".] B. Kerry—Ueber Anschauung und ihre psychische Verarbeitung (v.). Anzeige. Selbstanzeigen, &c.

PHILOSOPHISCHE STUDIEN.—Bd. v., Heft 3. W. Wundt—Biologische Probleme. [A biological chapter of a forthcoming comprehensive work on philosophy. The author discusses the chief questions of speculative biology; setting forth, in particular, a "principle of threefold explanation," according to which every organic process may be viewed from the "physico-chemical," the "physiological" and the "psychological" points of view. Sometimes one and sometimes another of these is actually the only point of view from which scientific explanation can be attempted; but a process may always be speculatively considered under all three. An implication of the principle is that cell-division and protoplasmic contraction, the two earliest vital processes, have a psychical aspect. Therefore, since every psychical process is at bottom an act of will, will is present from the beginning of organic life.] O. Külpe—Die Lehre vom Willen in der neueren Psychologie (Schluss). A. Kirschmann—Ueber die Helligkeitsempfindung im indirecten Sehen.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE.—Bd. ii., Heft 2. H. Diels—Thales ein Semite? [That the attempt to make out a Phœnician origin for Thales cannot be sustained.] A. Gercke—Die Hypothesis in Platon's *Menon*. O. Kern—Zu der platonischen Atlantissage. H. Siebeck—Zur Psychologie der Scholastik. [On Alexander of Hales, John of Rochelle and Albert the Great.] L. Stein—Antike und mittelalterliche Vorläufer des Occasionalismus. [A very interesting account (extending over pp. 192-245 and divided into an introduction and five chapters) of the reconciliation of free-will and determinism attempted by Cleanthes within the Stoic school, by Al Ascha'ri, the founder of the Arabian school of the Ascharija, by the mystic Richard of St. Victor, and by the Occasionalists. Having shown how, with different philosophical antecedents and under quite different historical conditions generally, precisely the same solution of the same philosophical problem was arrived at, the author asks finally whether any direct historical relation can be traced among its discoverers. He finds that there is incontestable proof that the solution of Al Ascha'ri could not have been derived from the Stoics, and that in the other cases the hypothesis of borrowing is highly improbable. Dr. Stein has already written (more briefly) on the same topic in his *Psychologie der Stoa*, ii. (see MIND xiii. 303).] K. Köstlin—Ein Hymnus auf Immanuel Kant. B. Erdmann—Zwei Briefe Kants. Jahresbericht (E. Zeller, B. Erdmann, J. G. Schurman). Neueste Erscheinungen.

PHILOSOPHISCHES JAHRBUCH.—Bd. i., Heft 4. C. Gutberlet—Gottesbeweis oder Gottesbeweise. J. Costa-Rossetti—Die Staatslehre der christlichen Philosophie (i.). [The first part of a summary of a doctrine of the State that has already been set forth by the author in a systematic work. His aim has been to build up out of the "ideas and principles" for a political doctrine that are to be found in the philosophico-theological works of the Scholastics and in their commentaries on Aristotle such a harmonious structure as they themselves had before their minds.] Praxmarer—Die Controverse zwischen Vasquez u. Suarez über das Wesen des Naturgesetzes. Nachwort der Redaction. Recensionen und Referate. Zeitschriftenschau. Miscellen und Nachrichten.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

I.—THE PSYCHOLOGY OF BELIEF.

By Professor WILLIAM JAMES.

"Mein Jetzt und Hier ist der letzte Angelpunkt für alle Wirklichkeit, also alle Erkenntniss."—THEODOR LIPPS.

Everyone knows the difference between imagining a thing and believing in its existence, between supposing a proposition and acquiescing in its truth. In the case of acquiescence or belief, the object is not only apprehended by the mind, but is held to have reality. Belief is thus the mental state or function of cognising reality—I might, indeed, have called this paper 'The Perception of Reality'. As used in the following pages, 'Belief' will mean every degree of assurance, including the highest possible certainty and conviction.

There are, as we know, two ways of studying every psychic state. First, the way of analysis: What does it consist in? What is its inner nature? Of what sort of mind-stuff is it composed? Second, the way of history: What are its conditions of production, and its connexion with other facts?

Into the first way we cannot go very far. In its inner nature belief, or the sense of reality, is a sort of feeling more allied to the emotions than to anything else. Mr.

Bagehot distinctly calls it the 'emotion' of conviction. I just now spoke of it as acquiescence. It resembles more than anything what in the psychology of volition we know as consent. Consent is recognised by all to be a manifestation of our active nature. It would naturally be described by such terms as 'willingness' or the 'turning of our disposition'. What characterises both consent and belief is the cessation of theoretic agitation, through the advent of an idea which is inwardly stable, and fills the mind solidly to the exclusion of contradictory ideas. When this is the case, motor effects are apt to follow. Hence the states of consent and belief, characterised by repose on the purely intellectual side, are both intimately connected with subsequent practical activity. This inward stability of the mind's content is as characteristic of disbelief as of belief. We shall presently see that we never disbelieve anything except for the reason that we believe something else which contradicts the first thing.[1] Disbelief is thus an incidental complication to belief, and need not be considered by itself.

The true opposites of belief, psychologically considered, are doubt and inquiry, not disbelief. In both these states the content of our mind is in unrest, and the emotion engendered thereby is, like the emotion of belief itself, perfectly distinct, but perfectly indescribable in words. Both sorts of emotion may be pathologically exalted. One of the charms of drunkenness unquestionably lies in the deepening of the sense of reality and truth which is gained therein. In whatever light things may then appear to us, they seem more utterly what they are, more 'utterly utter' than when we are sober. This goes to a fully unutterable extreme in the nitrous oxide intoxication, in which a man's very soul will sweat with conviction, and he be all the while unable to tell what he is convinced of at all.[2] The pathological state opposed to this solidity and deepening has been called the questioning mania (*Grübelsucht* by the Germans). It is sometimes found as a substantive affection, paroxysmal or chronic, and consists in the inability to rest in any conception, and the need of having it confirmed and explained. 'Why do I stand here

[1] Compare this psychological fact with the corresponding logical truth that all negation rests on covert assertion of something else than the thing denied. (See Bradley's *Principles of Logic*, bk. i., ch. 3.)

[2] See that very remarkable little work, *The Anæsthetic Revelation and the Gist of Philosophy*, by Benj. P. Blood (Amsterdam, N.Y., 1874). Compare also MIND vii. 206.

where I stand?' 'Why is a glass a glass, a chair a chair?' 'How is it that men are only of the size they are? Why not as big as houses?' &c., &c.[1] There is, it is true, another pathological state which is as far removed from doubt as from belief, and which some may prefer to consider the proper contrary of the latter state of mind. I refer to the feeling that everything is hollow, unreal, dead. I shall speak of this state again upon a later page. The point I wish to notice here is simply that belief and disbelief are but two aspects of one psychic state.

John Mill, reviewing various opinions about belief, comes to the conclusion that no account of it can be given:

"What," he says, "is the difference *to our minds* between thinking of a reality and representing to ourselves an imaginary picture? I confess I can see no escape from the opinion that the distinction is ultimate and primordial. There is no more difficulty in holding it to be so than in holding the difference between a sensation and an idea to be primordial. It seems almost another aspect of the same difference. . . . I cannot help thinking, therefore, that there is in the remembrance of a real fact, as distinguished from that of a thought, an element which does not consist . . . in a difference between the mere ideas which are present to the mind in the two cases. This element, howsoever we define it, constitutes belief, and is the difference between Memory and Imagination. From whatever direction we approach, this difference seems to close our path. When we arrive at it, we seem to have reached, as it were, the central point of our intellectual nature, presupposed and built upon in every attempt we make to explain the more recondite phenomena of our mental being." [2]

[1] "To one whose mind is healthy thoughts come and go unnoticed; with me they have to be faced, thought about in a peculiar fashion, and then disposed of as finished, and this often when I am utterly wearied and would be at peace; but the call is imperative. This goes on to the hindrance of all natural action. If I were told that the staircase was on fire and I had only a minute to escape, and the thought arose—'Have they sent for fire-engines? Is it probable that the man who has the key is on hand? Is the man a careful sort of person? Will the key be hanging on a peg? Am I thinking rightly? Perhaps they don't lock the depot'—my foot would be lifted to go down; I should be conscious to excitement that I was losing my chance; but I should be unable to stir until all these absurdities were entertained and disposed of. In the most critical moments of my life, when I ought to have been so *engrossed as to leave no room for any secondary thoughts*, I have been oppressed by the inability to be at peace. And in the most ordinary circumstances it is all the same. Let me instance the other morning I went to walk. The day was biting cold, but I was unable to proceed except by jerks. Once I got arrested, my feet in a muddy pool. One foot was lifted to go, knowing that it was not good to be standing in water, but there I was fast, the cause of detention being the discussing with myself the reasons why I should not stand in that pool." (T. S. Clouston, *Clinical Lectures on Mental Diseases*, 1883, p. 43. See also Berger, in *Archiv f. Psychiatrie*, vi. 217.)

[2] Note to Jas. Mill's *Analysis*, i. 412-423.

If the words of Mill be taken to apply to the mere subjective analysis of belief—to the question, What does it feel like when we have it? they must be held, on the whole, to be correct. Belief, the sense of reality, feels like itself—that is about as much as we can say.

Prof. Brentano, in an admirable chapter of his *Psychologie*, expresses this by saying that conception and belief (which he names *judgment*) are two different fundamental psychic phenomena. What I myself in a former article, MIND ix. 22, called the 'object' of thought may be comparatively simple, like 'Ha! what a pain,' or 'It thunders'; or it may be complex, like 'Columbus discovered America in 1492,' or 'There exists an all-wise Creator of the world'. In either case, however, the mere thought of the object may exist as something quite distinct from the belief in its reality. The belief, as Brentano says, presupposes the mere thought:

"Every object comes into consciousness in a twofold way, as simply thought of [*vorgestellt*] and as admitted [*anerkannt*] or denied. The relation is analogous to that which is assumed by most philosophers (by Kant no less than by Aristotle) to obtain between mere thought and desire. Nothing is ever desired without being thought of; but the desiring is nevertheless a second quite new and peculiar form of relation to the object, a second quite new way of receiving it into consciousness. No more is anything judged (*i.e.*, believed or disbelieved) which is not thought of too. But we must insist that, so soon as the object of a thought becomes the object of an assenting or rejecting judgment, our consciousness steps into an entirely new relation towards it. It is then twice present in consciousness, as thought of, and as held for real or denied; just as when desire awakens for it, it is both thought and simultaneously desired" (p. 266).

The commonplace doctrine of 'judgment' is that it consists in the combination of 'ideas' by a 'copula' into a 'proposition,' which may be of various sorts, as affirmative, negative, hypothetical, &c. But who does not see that in a disbelieved or doubted or interrogative or conditional proposition, the ideas are combined in the same identical way in which they are in a proposition which is solidly believed? The way in which the ideas are combined is a part of the inner constitution of the thought's object or content. That object is sometimes an articulated whole with relations between its parts, amongst which relations that of predicate to subject may be one. But when we have got our object with its inner constitution thus defined in a proposition, then the question comes up regarding the object as a whole: 'Is it a real object, and is this proposition about it a true proposition or not?' And in the answer *Yes* to *this* question lies that new psychic act which Brentano calls 'judgment,' but which I prefer to call 'belief'.

In every proposition, then, so far as it is believed, questioned or disbelieved, four elements are to be distinguished, the subject, the predicate, and their relation (of whatever sort it be), and finally the psychic attitude in which our mind stands towards the proposition taken as a whole.[1]

Admitting, then, that this attitude is a state of consciousness *sui generis*, about which nothing more can be said in the way of internal analysis, let us proceed to the second way of studying the subject of belief: *Under what circumstances does this peculiar attitude of mind arise?* We shall soon see how much matter this gives us to discuss.

Suppose a new-born mind, entirely blank and waiting for experience to begin. Suppose that it begins in the form of a visual impression (whether faint or vivid is immaterial) of a lighted candle against a dark background, and nothing else, so that whilst this image lasts it constitutes the entire universe known to the mind in question. Suppose, moreover (to simplify the hypothesis), that the candle is only imaginary, and that no 'original' of it is recognised by us psychologists outside. Will this hallucinatory candle be believed in, will it have a real existence for the mind?

What possible sense (for that mind) would a suspicion have that the candle was not real? What would doubt or disbelief of it imply? When *we*, the onlooking psychologists, say the candle is unreal, we mean something quite definite, *viz.*, that there is a world known to *us* which *is* real, and to which we perceive that the candle does not belong; it belongs exclusively to that individual mind, has no *status* anywhere else, &c. It exists, to be sure, in a fashion, for it forms the content of that mind's hallucination; but the hallucination itself, though unquestionably it is a sort of existing fact, has no knowledge of *other* facts; and since those *other* facts are the realities *par excellence* for us, and the only things we believe in, the candle is simply outside of our reality and belief altogether.

By the hypothesis, however, the *mind which sees the candle* can spin no such considerations as these about it, for of other facts, actual or possible, it has no inkling whatever. That candle is its all, its absolute. Its entire faculty of attention is absorbed by it. It *is*, it is *that*; it is *there*; no other possible candle, or quality of this candle, no other possible place, or possible object in the place, no alternative,

[1] For an excellent account of the history of opinion on this subject see A. Marty, in *Vierteljahrssch. f. wiss. Phil.*, vii. 161 ff. (1884).

in short, suggests itself as even conceivable; so how can the mind help believing the candle real? The supposition that it might possibly not do so is, under the supposed conditions, unintelligible.

This is what Spinoza long ago announced:—

"Let us conceive a boy," he said, "imagining to himself a horse, and taking note of nothing else. As this imagination involves the existence of the horse, *and the boy has no perception which annuls its existence*, he will necessarily contemplate the horse as present, nor will he be able to doubt of its existence, however little certain of it he may be. I deny that a man in so far as he imagines [*percipit*] affirms nothing. For what is it to imagine a winged horse but to affirm that the horse [that horse, namely] has wings? For if the mind had nothing before it but the winged horse it would contemplate the same as present, would have no cause to doubt of its existence, nor any power of dissenting from its existence, unless the imagination of the winged horse were joined to an idea which contradicted [*tollit*] its existence" (*Ethics*, ii. 49, Scholium).

The sense that anything we think of is unreal can only come, then, when that thing is contradicted by some other thing of which we think. The contradicting thing may then itself be held for real, till it in turn is contradicted by some farther object of our thought. Any object which remains uncontradicted is *ipso facto* believed and posited as absolute reality.

Now, how comes it that one thing thought of can be contradicted by another? It can't unless it begins the quarrel by saying something inadmissible about that other. Take the mind with the candle or the boy with the horse. If either of them say, 'That candle or that horse, even when I don't see it, exists in real extra-mental space,' he pushes into real extra-mental space an object which may be incompatible with everything which he otherwise knows of that space. If so, he must take his choice of which to hold by, the present perceptions or the other knowledge of space. If he holds to the other knowledge, the present perceptions are annulled, so far as their relation to that extra-mental space goes. Candle and horse, whatever they may be, are not existents in *outward* space. They are existents of course; they are mental objects; mental objects have existence as mental objects. But they are situated in their own spaces, the space in which they severally appear, and neither of those spaces is space in which outer realities exist.

Take again the horse with wings. If I merely dream of a horse with wings, my horse interferes with nothing else and has not to be contradicted. That horse, its wings and its place, are all equally real. That horse exists no otherwise than as winged, and is moreover really there, for that place

exists no otherwise than as the place of that horse, and claims as yet no connexion with the other places of the world. But if with this horse I make an inroad into the *world otherwise known*, and say, for example, 'That is my old mare Maggie, having grown a pair of wings where she stands in her stall,' the whole case is altered. Now the horse and place are identified with a horse and place otherwise known, and *what* is known of the latter objects is incompatible with what is perceived with the former. 'Maggie in her stall with wings! Never!' The wings are unreal, then, visionary. I have dreamed a lie about Maggie in her stall.

The reader will recognise in these two cases the two sorts of judgment called in the logic-books existential and attributive respectively. 'The candle exists as an outer reality' is an existential, 'My Maggie has got a pair of wings' is an attributive, proposition;[1] and it follows from what was first said, that all propositions, whether attributive or existential, are *believed through the very fact of being conceived*, unless they clash with other propositions believed at the same time, by affirming that their terms are the *same* with the terms of these other propositions. A dream-candle has existence, true enough; but not the same existence (existence for itself, namely, or *extra mentem meam*) which the candles of waking perception have. A dream-horse has wings; but then neither horse nor wings are the same with any horses or wings known to memory. That we can at any moment think of the same thing which at any former moment we thought of is the ultimate law of our intellectual constitution. But when we now think of it incompatibly with our other ways of thinking it, then we must choose which way to stand by, for we cannot continue to think in two contradictory ways at once. *The whole distinction of real and unreal, the whole psychology of belief, disbelief and doubt, is thus grounded*

[1] In both existential and attributive judgments a synthesis is represented. The syllable *ex* in the word Existence, *da* in the word *Dasein*, express it. 'The candle exists' is equivalent to 'The candle is *over there*'. And the 'over there' means real space, space related to other reals. The proposition amounts to saying: 'The candle is in the same space with other reals'. It affirms of the candle a very concrete predicate —namely, this relation to other particular concrete things. *Their* real existence, as we shall later see, resolves itself into their peculiar relation to *ourselves*. Existence is thus no substantive quality when we predicate it of any object; it is a relation, ultimately terminating in ourselves, and at the moment when it terminates, becoming a practical relation. But of this more anon. I only wish now to indicate the superficial nature of the distinction between the existential and the attributive proposition.

on two mental facts, first, that we are liable to think differently of the same, and second, that when we have done so, we can choose which way of thinking to adhere to and which to disregard.

The subjects adhered to become real subjects, the attributes adhered to real attributes, the existence adhered to real existence; whilst the subjects disregarded become imaginary subjects, the attributes disregarded erroneous attributes, and the existence disregarded an existence in no man's land, in the limbo "where footless fancies dwell".

Habitually and practically we do not *count* these disregarded things as existents at all, neither the times and spaces represented in our fancy, nor the subjects and attributes appearing located therein. The only times, places, subjects, relations, which popular thought *recognises* are those which we 'adhere to' in the way described. For the erroneous things *Vae victis* is the law; they are not even treated as appearances, in the popular philosophy; they are treated as if they were mere waste, equivalent to nothing at all. To the genuinely philosophic mind, however, they still have existence. They are not the same, nor have they the same existence, as the real things. But *as* objects of fancy, *as* errors, *as* occupants of dreamland, &c., they are in their way as indefeasible parts of life, as undeniable features of the Universe, as the realities are in their way. The total world of which the philosophers must take account is thus composed of the realities *plus* the fancies and illusions.

Two sub-universes, at least, connected by relations which philosophy tries to ascertain! Really there are more than two sub-universes of which we take account, some of us of this one, and others of that. For there are various categories both of illusion and of reality, and alongside of the world of absolute error (*i.e.*, error confined to single individuals) but still within the world of absolute reality (*i.e.*, reality believed by the complete philosopher) there is the world of collective error, there are the worlds of abstract reality, of relative or practical reality, of ideal relations, and there is the supernatural world. The popular mind conceives of all these sub-worlds more or less disconnectedly; and, when dealing with one of them, forgets for the time being its relations to the rest. The complete philosopher is he who seeks not only to assign to every given object of his thought its right place in one or other of these sub-worlds, but he also seeks to determine the relation of each sub-world to the others in the total world which is.

The most important sub-universes commonly discriminated from each other and recognised by most of us as

existing, each with its own special and separate style of existence, are the following:—

(1) The world of sense, or of physical 'things' as we instinctively apprehend them, with such qualities as heat, colour and sound, and such 'forces' as life, chemical affinity, gravity, electricity, all existing as such within or on the surface of the things.

(2) The world of science, or of physical things as the learned conceive them, with secondary qualities and 'forces' (in the popular sense) excluded, and nothing real but solids and fluids and their 'laws' (*i.e.*, customs) of motion.[1]

(3) The world of ideal relations, or abstract truths believed or believable by all, and expressed in logical, mathematical, metaphysical, ethical or æsthetic propositions.

(4) The world of 'idols of the tribe,' illusions or prejudices common to the race. All educated people recognise these as forming one sub-universe. The motion of the sky round the earth, for example, belongs to this world. That motion is not a recognised item of any of the other worlds; but as an 'idol of the tribe' it really exists. For certain philosophers 'matter' exists only as an idol of the tribe. For science, the 'secondary qualities' of matter are but 'idols of the tribe'.

(5) The various supernatural worlds, the Christian heaven and hell, the world of the Hindoo mythology, the world of things seen and heard by Swedenborg, &c. Each of these is a consistent system, with definite relations among its own parts. Neptune's trident, *e.g.*, has no status of reality whatever in the Christian heaven; but within the classic Olympus certain definite things are true of it, whether one believe in the reality of the classic mythology as a whole or not. The various worlds of deliberate fable may be ranked with these worlds of faith—the world of the *Iliad*, that of *King Lear*, of the *Pickwick Papers*, *&c.*[2]

[1] I define the scientific universe here in the radical mechanical way. Practically, it is oftener thought of in a mongrel way and resembles in more points the popular physical world.

[2] It thus comes about that we can say such things as that Ivanhoe did not *really* marry Rebecca, as Thackeray *falsely* makes him do. The real Ivanhoe-world is the one which Scott wrote down for us. *In that world* Ivanhoe does *not* marry Rebecca. The objects within that world are knit together by perfectly definite relations, which can be affirmed or denied. Whilst absorbed in the novel, we turn our backs on all other worlds, and, for the time, the Ivanhoe-world remains our absolute reality. When we wake from the spell, however, we find a still more real world, which reduces Ivanhoe, and all things connected with him, to the fictive status, and relegates them to one of the sub-universes grouped under No. 5.

(6) The various worlds of individual opinion, as numerous as men are.

(7) The worlds of sheer madness and vagary, also indefinitely numerous.

Every object we think of gets at last referred to one world or another of this or of some similar list. It settles into our belief as a common-sense object, a scientific object, an abstract object, a mythological object, an object of some one's mistaken conception, or a madman's object; and it reaches this state sometimes immediately, but often only after being hustled and bandied about amongst other objects until it finds some which will tolerate its presence and stand in relations to it which nothing contradicts. The molecules and ether-waves of the scientific world, for example, simply kick the object's warmth and colour out. But the world of 'idols of the tribe' stands ready to take them in. Just so the world of classic myth takes up the winged horse; the world of individual hallucination, the vision of the candle; the world of abstract truth, the proposition that justice is kingly, though no actual king be just. The various worlds themselves, however, appear (as aforesaid) to most men's minds in no very definitely conceived relation to each other, and our attention, when it turns to one, is apt to drop the others for the time being out of its account. Propositions concerning the different worlds are made from 'different points of view'; and in this more or less chaotic state the consciousness of most thinkers remains to the end.

Every thinker, however, practically elects from among the various worlds some one to be for him the world of *ultimate* realities. From this world's objects there is no appeal. Whatever contradicts what is believed of them must get into another world or die. The horse, *e.g.*, may have wings to its heart's content, so long as it does not pretend to be the real world's horse. The real world's horse is the horse which is absolutely wingless. For most men, as we shall immediately see, the 'things of sense' hold this prerogative position and are the absolutely real world's nucleus. Other things, to be sure, may be real for this man or for that—things of science, abstract moral relations, things of the Christian theology, or what not. But even for the special man, these things are usually real with a less real reality than that of the things of sense. They are taken less seriously; and the very utmost that can be said for anyone's belief in them is that it is as strong as his 'belief in his own senses'.

In all this the everlasting partiality of our nature shows

itself, our inveterate propensity to choice. For, in the strict and ultimate sense of the word existence, everything which can be thought of at all exists as *some* sort of object, whether mythical object, individual thinker's object, or object in outer space and for intelligence at large. Errors, fictions, tribal beliefs, are parts of the whole great Universe which God has made, and He must have meant all these things to be in it, each in its respective place. But for us finite creatures, "'tis to consider too curiously to consider so". The mere fact of appearing as an object at all is not enough to constitute reality. That may be metaphysical reality, reality for God; but what we need is practical reality, reality for ourselves; and, to have that, an object must not only appear, but it must appear both *interesting* and *important*. The worlds whose objects are neither interesting nor important we treat simply negatively, we brand them as *un*real.

In the relative sense, then, the sense in which we contrast reality with simple *un*reality, and in which one thing is said to have *more* reality than another, and to be more believed, *reality means simply relation to our emotional and active life*. This is the only sense which the word ever has in the mouths of practical men. In this sense, *whatever excites and stimulates our interest* is real; whenever an object so appeals to us that we turn to it, accept it, fill our mind with it, or practically take account of it, so far it is real for us, and we believe it. Whenever, on the contrary, we ignore it, fail to consider it or act upon it, despise it, reject it, forget it, so far it is unreal for us and disbelieved. Hume's account of the matter was then essentially correct, when he said that belief in anything was simply the having the idea of it in a lively and active manner:—

"I say, then, that belief is nothing but a more vivid, lively, forcible, firm, steady conception of an object, than the imagination alone is ever able to attain. . . . It consists not in the peculiar nature or order of the ideas, but in the *manner* of their conception and in their *feeling* to the mind. I confess that it is impossible perfectly to explain this feeling or manner of conception . . . Its true and proper name . . . is *belief*, which is a term that everyone sufficiently understands in common life. And in philosophy we can go no farther than assert that belief is something felt by the mind, which distinguishes the idea of the judgment from the fictions of the imagination.[1] It gives them more weight and influence; makes them appear of greater importance; enforces them in the mind; gives them a superior influence on the passions; and renders them the governing principle in our actions." [2]

[1] Distinguishes realities from unrealities, the essential from the rubbishy and neglectable.

[2] *Inquiry concerning Hum. Understanding*, sec. v., pt. 2 (slightly transposed in my quotation).

Or as Prof. Bain puts it: "In its essential character, belief is a phase of our active nature—otherwise called the Will".[1]

The object of belief, then, reality or real existence, is something quite different from all the other predicates which a subject may possess. Those are properties intellectually or sensibly intuited. When we add any one of them to the subject, we increase the intrinsic content of the latter, we enrich its picture in our mind. But adding reality does not enrich the picture in any such inward way; it leaves it inwardly as it finds it, and only fixes it and stamps it in to *us*. "The real," as Kant says, "contains no more than the possible. A hundred real dollars do not contain a penny more than a hundred possible dollars. . . . By whatever, and by however many, predicates I may think a thing, nothing is added to it if I add that the thing exists. . . . Whatever, therefore, our concept of an object may contain, we must always step outside of it in order to attribute to it existence."[2]

The 'stepping outside' of it is the establishment either of immediate practical relations between it and ourselves, or of relations between it and other objects with which we have immediate practical relations. Relations of this sort, which are as yet not transcended or superseded by others, are *ipso facto* real relations, and confer reality upon their objective term. The *fons et origo* of all reality, whether from the absolute or the practical point of view, is thus subjective, is *ourselves*. As bare logical thinkers, without emotional reaction, we give reality to whatever objects we think of, for they are really phenomena, or objects of our passing thought, if nothing more. But, as thinkers with emotional reaction, we give what seems to us a still higher

[1] Note to Jas. Mill's *Analysis*, i. 394.

[2] *Critique of Pure Reason*, trans. Müller, ii. 515-17. Hume also: "When, after the simple conception of anything, we would conceive it as existent, we in reality make no addition to, or alteration on, our first idea. Thus, when we affirm that God is existent, we simply form the idea of such a being as He is represented to us; nor is the existence which we attribute to Him conceived by a particular idea, which we join to His other qualities, and can again separate and distinguish from them. . . . The belief of the existence joins no new idea to those which compose the ideas of the object. When I think of God, when I think of Him as existent, and when I believe Him to be existent, my idea of Him neither increases nor diminishes. But as 'tis certain there is a great difference betwixt the simple conception of the existence of an object and the belief of it, and as this difference lies not in the facts or compositions of the idea which we conceive, it follows that it must lie in the manner in which we conceive it" (*Treatise of Human Nature*, pt. iii., sec. 7).

degree of reality to whatever things we select and emphasise and turn to *with a will*. These are our *living* realities; and not only these, but all the other things which are intimately connected with these. Reality, starting from our Ego, thus sheds itself from point to point—first, upon all objects which have an immediate sting of interest for our Ego in them, and next, upon the objects most continuously related with these. It only fades when the connecting thread is lost. A whole system may be real, if it only hang to our Ego by one immediately *stinging* term. But what contradicts any such stinging term, even though it be another stinging term itself, is either not believed, or only believed after settlement of the dispute.

We reach thus the important conclusion that *our own reality, that sense of our own life which we at every moment possess, is the ultimate of ultimates for our belief.* 'As sure as I exist!'—this is our uttermost warrant for the being of all other things. As Descartes made the indubitable reality of the *cogito* go bail for the reality of all that the *cogito* involved, so we all of us, feeling our own present reality with absolutely coercive force, ascribe an all but equal degree of reality, first to whatever things we lay hold on with a sense of personal need, and second, to whatever farther things continuously belong with these.

The world of living realities as contrasted with unrealities is thus anchored in the Ego, considered as an active and emotional term.[1] That is the hook from which the rest dangles, the absolute *πού στῶ*. And as from a painted hook it has been said that one can only hang a painted chain, so conversely, from a real hook only a real chain can properly be hung. Whatever things have intimate and continuous connexion with my life are things of whose reality I cannot doubt. Whatever things fail to establish this connexion are things which are practically no better for me than if they existed not at all.

In certain forms of melancholic perversion of the sensibilities and reactive powers, nothing touches us intimately, rouses us or wakens natural feeling. The consequence is the complaint so often heard from melancholic patients, that nothing is believed in by them as it used to be, and that all sense of reality is fled from life. They are sheathed in india-rubber, nothing penetrates to the quick or draws

[1] I use the notion of the Ego here, as common-sense uses it. Nothing is prejudged as to the results (or absence of results) of ulterior attempts to analyse the notion.

blood, as it were. According to Griesinger, 'I see, I hear!' such patients say, 'but the objects do not reach me, it is as if there were a wall between me and the outer world!'

"In such patients there often is an alteration of the cutaneous sensibility, such that things feel indistinct or sometimes rough and woolly. But even were this change always present, it would not completely explain the psychic phenomenon . . . which reminds us more of the alteration in our psychic relations to the outer world which advancing age on the one hand, and on the other emotions and passions, may bring about. In childhood we feel ourselves to be closer to the world of sensible phenomena, we live immediately with them and in them; an intimately vital tie binds us and them together. But with the ripening of reflection this tie is loosened, the warmth of our interest cools, things look differently to us, and we act more as foreigners to the outer world, even though we know it a great deal better. Joy and expansive emotions in general draw it nearer to us again. Everything makes a more lively impression, and with the quick immediate return of this warm receptivity for sense-impressions, joy makes us feel young again. In depressing emotions it is the other way. Outer things, whether living or inorganic, suddenly grow cold and foreign to us, and even our favourite objects of interest feel as if they belonged to us no more. Under these circumstances, receiving no longer from anything a lively impression, we cease to turn towards outer things, and the sense of inward loneliness grows upon us. . . . Where there is no strong intelligence to control this *blasé* condition, this psychic coldness and lack of interest, the issue of these states in which all seems so cold and hollow, the heart dried up, the world grown dead and empty, is often suicide or the deeper forms of insanity."[1]

But now we are met by questions of detail. What does this stirring, this exciting power, this interest, consist in, which some objects have? which *are* those 'intimate relations' with our life which give reality? And what things stand in these relations immediately, and what others are so closely connected with the former that (in Hume's language) we "carry our disposition" also on to them?

In a simple and direct way these questions cannot be answered at all. The whole history of human thought is but an unfinished attempt to answer them. For what have men been trying to find out, since men were men, but just those things: 'Where do our true interests lie—which relations shall we call the intimate and real ones—which things shall we call living realities and which not?' A few psychological points can, however, be made clear.

Any relation to our mind at all, *in the absence of a stronger relation*, suffices to make an object real. The barest appeal

[1] Griesinger, *Mental Diseases*, §§ 50, 98. The neologism we so often hear, that an experience 'gives us a *realising sense*' of the truth of some proposition or other, illustrates the dependence of the sense of reality upon *excitement*. Only what stirs us is realised.

to our attention is enough for that. Revert to the beginning of the chapter, and take the candle entering the vacant mind. The mind was waiting for just some such object to make its spring upon. It makes its spring and the candle is believed. But when the candle appears at the same time with other objects, it must run the gauntlet of their rivalry, and then it becomes a question which of the various candidates for attention shall compel belief. As a rule we believe as much as we can. We would believe everything if we only could. When objects are represented by us quite unsystematically they conflict but little with each other, and the number of them which in this chaotic manner we can believe is limitless. The primitive savage's mind is a jungle in which hallucinations, dreams, superstitions, conceptions and sensible objects all flourish alongside of each other, unregulated except by the attention turning in this way or in that. The child's mind is the same. It is only as objects become permanent and their relations fixed that discrepancies and contradictions are felt and must be settled in some stable way. As a rule, the success with which a contradicted object maintains itself in our belief is proportional to several qualities which it must possess. Of these the one which would be put first by most people, because it characterises objects of sensation, is its—

(1) Coerciveness over attention, or the mere power to possess consciousness: then follow—

(2) Liveliness, or sensible pungency, especially in the way of exciting pleasure or pain;

(3) Stimulating effect upon the will, *i.e.*, capacity to arouse active impulses, the more instinctive the better;

(4) Emotional interest, as object of love, dread, admiration, desire, &c.;

(5) Congruity with certain favourite forms of contemplation—unity, simplicity, permanence, and the like;

(6) Independence of other causes, and its own causal importance.

These characters run into each other. Coerciveness is the result of liveliness or emotional interest. What is lively and interesting stimulates *eo ipso* the will; congruity holds of active impulses as well as of contemplative forms; causal independence and importance suit a certain contemplative demand, &c. I will therefore abandon all attempt at a formal treatment, and simply proceed to make remarks in the most convenient order of exposition.

As a whole, sensations are more lively and are judged more real than conceptions; things met with every hour

more real than things seen once; attributes perceived when awake, more real than attributes perceived in a dream. But, owing to the *diverse relations contracted by the various objects with each other*, the simple rule that the lively and permanent is the real is often enough disguised. A conceived thing may be deemed more real than a certain sensible thing, if it only be intimately related to other sensible things more vivid, permanent or interesting than the first one. Conceived molecular vibrations, *e.g.*, are by the physicist judged more real than felt warmth, because so intimately related to all those other facts of motion in the world which he has made his special study. Similarly, a rare thing may be deemed more real than a permanent thing if it be more widely related to other permanent things. All the occasional crucial observations of science are examples of this. A rare experience, too, is likely to be judged more real than a permanent one, if it be more interesting and exciting. Such is the sight of Saturn through a telescope; such are the occasional insights and illuminations which upset our habitual ways of thought.

But no mere floating conception, no mere disconnected rarity, ever displaces vivid things or permanent things from our belief. A conception, to prevail, must *terminate* in the world of orderly sensible experience. A rare phenomenon, to displace frequent ones, must belong with others more frequent still. The history of science is strewn with wrecks and ruins of theory, essences and principles, fluids and forces, once fondly clung to, but found to hang together with no facts of sense. And exceptional phenomena solicit our belief in vain until such time as we chance to conceive them as of kinds already admitted to exist. What science means by 'verification' is no more than this, that no object of conception shall be believed which sooner or later has not some permanent and vivid object of sensation for its *term*.

Sensible objects are thus either our realities or the tests of our realities. Conceived objects must show sensible *effects* or else be disbelieved. And the effects, even though reduced to relative unreality when their causes come to view (as heat, which molecular vibrations make unreal), are yet the things on which our knowledge of the causes rests. Strange mutual dependence this, in which the appearance needs the reality in order to exist, but the reality needs the appearance in order to be known!

Sensible vividness or pungency is then the vital factor in reality when once the conflict between objects and the connecting of them together in the mind has begun. No object

which neither possesses this vividness in its own right nor is able to borrow it from anything else has a chance of making headway against vivid rivals, or of rousing in us that reaction in which belief consists. On the vivid objects we *pin*, as the saying is, our faith in all the rest; and our belief returns instinctively even to those of them from which reflection has led it away. Witness the obduracy with which the popular world of colours, sounds and smells holds its own against that of molecules and vibrations. Let the physicist himself but nod, like Homer, and the world of sense becomes his absolute reality again.[1]

That things originally devoid of this stimulating power should be enabled, by association with other things which have it, to compel our belief as if they had it themselves, is a remarkable psychological fact, which since Hume's time it has been impossible to overlook.

"The vividness of the first conception," he writes, "diffuses itself along the relations and is conveyed, as by so many pipes or channels, to every idea that has any communication with the primary one. . . . Superstitious people are fond of the relics of saints and holy men, for the same reason that they seek after types and images, in order to enliven their devotion and give them a more intimate and strong conception of those exemplary lives. . . . Now, 'tis evident one of the best relics a devotee could procure would be the handiwork of a saint, and if his clothes and furniture are ever to be considered in this light, 'tis because they were once at his disposal, and were moved and affected by him; in which respect they are . . . connected with him by a shorter train of consequences than any of those from which we learn the reality of his existence. This phenomenon clearly proves that a present impression, with a relation of causation, may enliven any idea, and consequently

[1] The way in which sensations are pitted against systematised conceptions, and in which the one or the other then prevails according as the sensations are felt by ourselves or merely known by report, is interestingly illustrated at the present day by the state of public belief about 'spiritualistic' phenomena. There exist numerous narratives of movement without contact on the part of articles of furniture and other material objects, in the presence of certain privileged individuals called mediums. Such movement violates our memories, and the whole system of accepted physical 'science'. Consequently those who have not seen it either brand the narratives immediately as lies or call the phenomena 'illusions' of sense, produced by fraud or due to hallucination. But one who has actually seen such a phenomenon, under what seems to him sufficiently 'test-conditions,' will hold to his sensible experience through thick and thin, even though the whole fabric of 'science' should be rent in twain. That man would be a weak-spirited creature indeed who should allow any fly-blown generalities about 'the liability of the senses to be deceived' to bully him out of his adhesion to what for him was an indubitable experience of sight. A man may err in this obstinacy, sure enough, in any particular case. But the spirit that animates him is that on which ultimately the very life and health of Science rest.

produce belief or assent, according to the precedent definition of it. . . . It has been remarked among the Mahometans as well as Christians, that those pilgrims who have seen Mecca or the Holy Land are ever after more faithful and zealous believers than those who have not had that advantage. A man whose memory presents him with a lively image of the Red Sea and the Desert and Jerusalem and Galilee can never doubt of any miraculous events which are related either by Moses or the Evangelists. The lively idea of the places passes by an easy transition to the facts which are supposed to have been related to them by contiguity, and increases the belief by increasing the vivacity of the conception. The remembrance of those fields and rivers has the same influence as a new argument. . . . The ceremonies of the Catholic religion may be considered as instances of the same nature. The devotees of that strange superstition usually plead in excuse for the mummeries with which they are upbraided that they feel the good effect of external motions and postures and actions in enlivening their devotion and quickening their fervour, which otherwise would decay, if directed entirely to distant and immaterial objects. We shadow out the objects of our faith, say they, in sensible types and images, and render them more present to us by the immediate presence of these types than it is possible for us to do merely by an intellectual view and contemplation." [1]

Hume's cases are rather trivial ; and the things which associated sensible objects make us believe in are supposed by him to be unreal. But all the more manifest for that is the fact of their psychological influence. Who does not 'realise' more the fact of a dead or distant friend's existence, at the moment when a portrait, letter, garment or other material reminder of him is found ? The whole notion of him then grows pungent and speaks to us and shakes us, in a manner unknown at other times. In children's minds, fancies and realities live side by side. But however lively their fancies may be, they still gain help from association with reality. The imaginative child identifies its *dramatis personæ* with some doll or other material object, and this evidently solidifies belief, little as it may resemble what it is held to stand for. A thing not too interesting by its own real qualities generally does the best service here. The most useful doll I ever saw was a large cucumber in the hands of a little Amazonian-Indian girl ; she nursed it and washed it and rocked it to sleep in a hammock, and talked to it all day long—there was no part in life which the cucumber did not play. Says Mr. Tylor :—

"An imaginative child will make a dog do duty for a horse, or a soldier for a shepherd, till at last the objective resemblance almost disappears, and a bit of wood may be dragged about, resembling a ship on the sea or a coach on the road. Here the likeness of the bit of wood to a ship or

[1] *Treatise of Human Nature*, bk. i., pt. iii., sec. 7.

coach is very slight indeed; but it is a thing, and can be moved about . . . and is an evident assistance to the child in enabling it to arrange and develop its ideas. . . . Of how much use . . . may be seen by taking it away, and leaving the child nothing to play with. . . . In later years and among highly educated people the mental process which goes on in a child's playing with wooden soldiers and horses, though it never disappears, must be sought for in more complex phenomena. Perhaps nothing in after-life more closely resembles the effect of a doll upon a child than the effect of the illustrations of a tale upon a grown reader. Here the objective resemblance is very indefinite . . . yet what reality is given to the scene by a good picture. . . . Mr. Backhouse one day noticed in Van Diemen's Land a woman arranging several stones that were flat, oval and about two inches wide, and marked in various directions with black and red lines. These, he learned, represented absent friends, and one larger than the rest stood for a fat native woman on Flinder's Island, known by the name of Mother Brown. Similar practices are found among far higher races than the ill-fated Tasmanians. Among some North American tribes a mother who has lost a child keeps its memory ever present to her by filling its cradle with black feathers and quills and carrying it about with her for a year or more. When she stops anywhere, she sets up the cradle and talks to it as she goes about her work, just as she would have done if the dead body had been still alive within it. Here we have an image; but in Africa we find a rude doll representing the child, kept as a memorial. . . . Bastian saw Indian women in Peru who had lost an infant carrying about on their backs a wooden doll to represent it."[1]

To many persons among us, photographs of lost ones seem to be fetishes. They, it is true, resemble; but the fact that the mere materiality of the reminder is almost as important as its resemblance is shown by the popularity a hundred years ago of the black taffeta 'silhouettes' which are still found among family relics, and of one of which Fichte could write to his affianced: "*Die Farbe fehlt, das Auge fehlt, es fehlt der himmlische Ausdruck deiner lieblichen Züge*"—and yet go on worshipping it all the same. The opinion so stoutly professed by many, that language is essential to thought, seems to have this much of truth in it, that all our inward images tend invincibly to attach themselves to something sensible so as to gain in corporeity and life. Words serve this purpose, gestures serve it, stones, straws, chalk-marks, anything will do. As soon as any one of these things stands for the idea, the latter seems to be more real. Some persons, the present writer among the number, can hardly lecture without a black-board: the abstract conceptions must be symbolised by letters, squares or circles, and the relations between them by lines. All this symbolism, linguistic, graphic and dramatic, has other uses too, for it abridges thought and fixes terms. But one of its uses is surely to rouse the believing reaction and

[1] *Early Hist. of Mankind*, p. 108.

give to the ideas a more living reality. As, when we are told a story, and shown the very knife that did the murder, the very ring whose hiding-place the clairvoyant revealed, the whole thing passes from fairy-land to mother-earth, so here we believe all the more, if only we see that "the bricks are alive to tell the tale".[1]

So much for the prerogative position of sensations in regard to our belief. But among the sensations themselves all are not deemed equally real. The more practically important ones, the more permanent ones, and the more æsthetically apprehensible ones are selected from the mass, to be believed in most of all; the others are degraded to the position of mere signs and suggesters of these. This fact has already been adverted to in a former essay in MIND (vol. xii.). The real colour of a thing is that one colour-sensation which it gives us when most favourably lighted for vision. So of its real size, its real shape, &c.—these are but optical sensations selected out of thousands of others, because they have æsthetic characteristics which appeal to our convenience or delight. But I will not repeat what I have already written about this matter, but pass on to our treatment of tactile and muscular sensations, as 'primary qualities,' more real than those 'secondary' qualities which eye and ear and nose reveal. Why do we thus so markedly select the *tangible* to be the real? Our motives are not far to seek. The tangible qualities are the least fluctuating. When we get them at all we get them the same. The other qualities fluctuate enormously as our relative position to the object changes. Then, more decisive still, the tactile properties are those most intimately connected with our weal or woe. A dagger hurts us only when in contact with our skin, a poison only when we take it into our mouths, and we can only use an object for our advantage when we have it in our muscular control. It is as tangibles, then, that things concern us most; and the other senses, so far as their practical use goes, do but warn us of what tangible things to expect. They are but organs of anticipatory touch, as Berkeley has with perfect clearness explained.[2]

[1] The reader will be reminded of the part which real sensations play in a very large number of hallucinations or even, according to M. Binet, in all. Some sensorial process seems requisite in order that the illusory object shall appear *outwardly there*, though the *nature* of the object thus appearing may be determined by inward cerebral processes with which under normal conditions the outer *point de repère* had nothing to do.

[2] See *Theory of Vision*, § 59.

Among all sensations, the *most* belief-compelling are those productive of pleasure or of pain. Locke expressly makes the *pleasure-* or *pain*-giving quality to be the ultimate human criterion of anything's reality. Discussing (with a supposed Berkeleyan before Berkeley) the notion that all our perceptions may be but a dream, he says:

"He may please to dream that I make him this answer . . . that I believe he will allow a very manifest difference between dreaming of being in the fire and being actually in it. But yet if he be resolved to appear so sceptical as to maintain that what I call being actually in the fire is nothing but a dream, and that we cannot thereby certainly know that any such thing as fire actually exists without us, I answer that we, certainly finding that pleasure or pain [or emotion of any sort] follows upon the application of certain objects to us, whose existence we perceive, or dream that we perceive by our senses, *this certainly is as great as our happiness or misery*, beyond which we have no concernment to know or to be."[1]

The quality of arousing emotion, of shaking, moving us or inciting us to action, has as much to do with our belief in an object's reality as the quality of giving pleasure or pain. In MIND ix. 188, I have sought to show that our emotions probably owe their pungent quality to the bodily sensations which they involve. Our tendency to believe in emotionally exciting objects (objects of fear, desire, &c.) more than in indifferent ones is thus explained without resorting to any fundamentally new principle of choice. Speaking generally, and other things being equal, the more a conceived object *excites* us, the more reality it has. The same object excites us differently at different times. Moral and religious truths come 'home' to us far more on some occasions than on others. As Emerson says, "there is a difference between one and another hour of life in their authority and subsequent effect. Our faith comes in

[1] *Essay*, bk. iv., ch. 2, § 14. In another place: "He that sees a candle burning and hath experimented the force of its flame by putting his finger into it, will little doubt that this is something existing without him, which does him harm and puts him to great pain. . . . And if our dreamer pleases to try whether the glowing heat of a glass furnace be barely a wandering imagination in a drowsy man's fancy by putting his hand into it, he may, perhaps, be awakened into a certainty greater than he could wish, that it is something more than bare imagination. So that the evidence is as great as we can desire, being as certain to us as our pleasure or pain, *i.e.*, happiness or misery; beyond which we have no concernment, either of knowledge or being. Such an assurance of the existence of things without us is sufficient to direct us in the attaining the good and avoiding the evil which is caused by them, which is the important concernment we have of being made acquainted with them" *Ibid.*, bk. iv., ch. 11, § 8.

moments . . . yet there is a depth in those brief moments which constrains us to ascribe more reality to them than to all other experiences." The "depth" is partly, no doubt, the insight into wider systems of unified relation, but far more often than that it is the emotional thrill. Thus, to descend to more trivial examples, a man who has no belief in ghosts by daylight will temporarily believe in them when, alone at midnight, he feels his blood curdle at a mysterious sound or vision, his heart thumping, and his legs impelled to flee. The thought of falling when we walk along a kerbstone awakens no emotion of dread, so no sense of reality attaches to it, and we are sure we shall not fall. On a precipice's edge, however, the sickening emotion which the notion of a possible fall engenders makes us believe in the latter's imminent reality, and quite unfits us to proceed.

The greatest proof that a man is *sui compos* is his ability to suspend belief in presence of an emotionally exciting idea. To give this power is the highest result of education. In untutored minds the power does not exist. Every exciting thought carries credence with it. To conceive with passion is *eo ipso* to affirm. As Bagehot says:—

"The Caliph Omar burnt the Alexandrian Library, saying: 'All books which contain what is not in the Koran are dangerous. All which contain what is in it are useless'! Probably no one ever had an intenser belief in anything than Omar had in this. Yet it is impossible to imagine it preceded by an argument. His belief in Mahomet, in the Koran, and in the sufficiency of the Koran, probably came to him in spontaneous rushes of emotion; there may have been little vestiges of argument floating here and there, but they did not justify the strength of the emotion, still less did they create it, and they hardly even excused it. . . . Probably, when the subject is thoroughly examined, conviction will be found to be one of the intensest of human emotions, and one most closely connected with the bodily state . . . accompanied or preceded by the sensation that Scott makes his seer describe as the prelude of a prophecy:—

> 'At length the fatal answer came,
> In characters of living flame—
> Not spoke in words, nor blazed in scroll,
> But borne and branded on my soul'.

A hot flash seems to burn across the brain. Men in these intense states of mind have altered all history, changed for better or worse the creed of myriads, and desolated or redeemed provinces or ages. Nor is this intensity a sign of truth, for it is precisely strongest in those points in which men differ most from each other. John Knox felt it in his anti-Catholicism; Ignatius Loyola in his anti-Protestantism; and both, I suppose, felt it as much as it is possible to feel it." [1]

[1] W. Bagehot, "The Emotion of Conviction," *Literary Studies* i. 412-17.

The reason of the belief is undoubtedly the bodily commotion which the exciting idea sets up. 'Nothing which I can feel like *that* can be false.' All our religious and supernatural beliefs are of this order. The surest warrant for immortality is the yearning of our bowels for our dear ones; for God, the sinking sense it gives us to imagine no such Providence or help. So of our political or pecuniary hopes and fears, and things and persons dreaded and desired. "A grocer has a full creed as to foreign policy, a young lady a complete theory of the sacraments, as to which neither has any doubt. . . . A girl in a country parsonage will be sure that Paris never can be taken, or that Bismarck is a wretch" —all because they have either conceived these things at some moment with passion, or associated them with other things which they have conceived with passion.

M. Renouvier calls this belief of a thing for no other reason than that we conceive it with passion, by the name of mental vertigo.[1] Other objects whisper doubt or disbelief; but the object of passion makes us deaf to all but itself, and we affirm it unhesitatingly. Such objects are the delusions of insanity, which the insane person can at odd moments steady himself against, but which again return to sweep him off his feet. Such are the revelations of mysticism. Such, particularly, are the sudden beliefs which animate mobs of men when frenzied impulse to action is involved. Whatever be the action in point—whether the stoning of a prophet, the hailing of a conqueror, the burning of a witch, the baiting of a heretic or Jew, the starting of a forlorn hope, or the flying from a foe—the fact that to believe a certain object will cause that action to explode convulsively is a sufficient reason for that belief to come. The motor impulse sweeps it unresisting in its train.

The whole history of witchcraft and early medicine is a commentary on the facility with which anything which chances to be conceived is believed the moment the belief chimes in with an emotional mood. The cause of sickness! When a savage asks the cause of anything he means to ask exclusively 'What is to blame?' The theoretic curiosity starts from the practical life's demands. Let some one then accuse a necromancer, suggest a charm or spell which has been cast, and no more 'evidence' is asked for. What evidence is required beyond this intimate sense of the

[1] *Psychologie Rationelle*, ch. 12.

culprit's responsibility, to which our very viscera and limbs reply?[1]

Human credulity in the way of therapeutics has similar psychological roots. If there is anything intolerable (especially to the heart of woman), it is to do nothing when a loved one is sick or in pain. To do anything is a relief. Accordingly, whatever remedy may be suggested is a spark on inflammable soil. The mind makes its spring towards

[1] Two examples out of a thousand:—

Reid, *Inquiry*, ch. ii., § 9:—"I remember, many years ago, a white ox was brought into the country, of so enormous size, that people came many miles to see him. There happened, some months after, an uncommon fatality among women in child-bearing. Two such uncommon events, following one another, gave a suspicion of their connexion, and occasioned a common opinion among the country people that the white ox was the cause of this fatality."

H. M. Stanley, *Through the Dark Continent*, ii. 388: "On the third day of our stay at Mowa, feeling quite comfortable amongst the people, on account of their friendly bearing, I began to write in my note-book the terms for articles, in order to improve my already copious vocabulary of native words. I had proceeded only a few minutes when I observed a strange commotion amongst the people who had been flocking about me, and presently they ran away. In a short time we heard war-cries ringing loudly and shrilly over the table-land. Two hours afterwards, a long line of warriors were seen descending the table-land and advancing towards our camp. There may have been between five and six hundred of them. We, on the other hand, had made but few preparations except such as would justify us replying to them in the event of the actual commencement of hostilities. But I had made many firm friends among them, and I firmly believed that I should be able to avert an open rupture. When they had assembled at about a hundred yards in front of our camp, Safeni and I walked up towards them and sat down midway. Some half-dozen of the Mowa people came near, and the shauri began.

"'What is the matter, my friends?' I asked. 'Why do you come with guns in your hands, in such numbers, as though you were coming to fight? Fight? fight us, your friends! Tut! this is some great mistake, surely.'

"'Mundelé,' replied one of them . . . 'our people saw you yesterday make marks on some tara-tara [paper]. This is very bad. Our country will waste, our goats will die, our bananas will rot, and our women will dry up. What have we done to you that you should wish to kill us? We have sold you food and we have brought you wine each day. Your people are allowed to wander where they please without trouble. Why is the Mundelé so wicked? We have gathered together to fight you if you do not burn that tara-tara now before our eyes. If you burn it we go away, and shall be your friends as heretofore.'

"I told them to rest there, and left Safeni in their hands as a pledge that I should return. My tent was not fifty yards from the spot, but while going towards it my brain was busy in devising some plan to foil this superstitious madness. My note-book contained a vast number of valuable notes. . . . I could not sacrifice it to the childish caprice of savages. As I was rummaging my book-box, I came across a volume of *Shakespeare* [Chandos edition] much worn, and well thumbed, and which

action on that cue, sends for that remedy, and for a day at least believes the danger past. Blame, dread and hope are thus the great belief-inspiring passions, and cover among them the future, the present and the past.

These remarks illustrate the earlier heads of the list on page 335. Whichever represented objects give us sensations, especially interesting ones, or incite our motor impulses, or arouse our hate, desire or fear, are real enough for us. Our requirements in the way of reality terminate in our own acts and emotions, our own pleasures and pains. These are the ultimate fixities from which, as we formerly observed, the whole chain of our beliefs depends, object hanging to object, as the bees, in swarming, hang to each other until, *de proche en proche*, the supporting branch, the Self, is reached and held.

Now the merely conceived or imagined objects which our mind represents as hanging to the sensations (causing them, &c.), filling the gaps between them, and weaving their interrupted chaos into order are innumerable. Whole systems of them conflict with other systems, and our choice of which system shall carry our belief is governed by principles which are simple enough, however subtle and difficult may be their application to details. The conceived system, to pass for true, must at least include the reality of the sensible objects in it, by explaining them as *effects on us*, if nothing more. The system which includes the most of them, and definitely explains or pretends to explain the most of them, will, *ceteris paribus*, prevail. It is needless to say how far mankind still is from having excogitated such a

was of the same size as my field-book; its cover was similar also, and it might be passed for the field-book, provided that no one remembered its appearance too well. I took it to them. 'Is this the tara-tara, friends, that you wish burnt?'

"'Yes, yes, that is it.'

"'Well, take it, and burn it, or keep it.'

"'M—m. No, no, no. We will not touch it. It is fetish. You must burn it.'

"'I! Well, let it be so. I will do anything to please my good friends of Mowa.'

"We walked to the nearest fire. I breathed a regretful farewell to my genial companion, which, during my many weary hours of night, had assisted to relieve my mind when oppressed by almost intolerable woes, and then gravely consigned the innocent *Shakespeare* to the flames, heaping the brush fuel over it with ceremonious care.

"'Ah-h-h,' breathed the poor deluded natives sighing their relief. . . . 'There is no trouble now.' . . . And something approaching to a cheer was shouted among them, which terminated the episode of the burning of *Shakespeare*."

system. But the various materialisms, idealisms and hylozoisms show with what industry the attempt is for ever made. It is conceivable that several rival theories should equally well include the actual order of our sensations in their scheme, much as the one-fluid and two-fluid theories of electricity formulated all the common electrical phenomena equally well. The sciences are full of these alternatives. Which theory is then to be believed? That will be most generally believed which, besides offering us objects able to account satisfactorily for our sensible experience, also offers those which are most interesting, those which appeal most urgently to our æsthetic, emotional and active needs. So here in the higher intellectual life, the same selection among general conception goes on which went on among the sensations themselves. First, a word of their relation to our emotional and active needs—and here I can do no better than quote from an article published some years ago.[1]

"A philosophy may be unimpeachable in other respects, but either of two defects will be fatal to its universal acceptance. First, its ultimate principle must not be one that essentially baffles and disappoints our dearest desires and most cherished powers. A pessimistic principle like Schopenhauer's incurably vicious Will-substance, or Hartmann's wicked jack-at-all-trades, the Unconscious, will perpetually call forth essays at other philosophies. Incompatibility of the future with their desires and active tendencies is, in fact, to most men a source of more fixed disquietude than uncertainty itself. Witness the attempts to overcome the 'problem of evil,' the 'mystery of pain'. There is no problem of 'good'.

"But a second and worse defect in a philosophy than that of contradicting our active propensities is to give them no Object whatever to press against. A philosophy whose principle is so incommensurate with our most intimate powers as to deny them all relevancy in universal affairs, as to annihilate their motives at one blow, will be even more unpopular than pessimism. Better face the enemy than the eternal Void! This is why materialism will always fail of universal adoption, however well it may fuse things into an atomistic unity, however clearly it may prophesy the future eternity. For materialism denies reality to the objects of almost all the impulses which we most cherish. The real

[1] "Rationality, Activity and Faith" (*Princeton Review*, July, 1882, pp. 64-9).

meaning of the impulses, it says, is something which has no emotional interest for us whatever. But what is called extradition is quite as characteristic of our emotions as of our sense. Both point to an Object as the cause of the present feeling. What an intensely objective reference lies in fear! In like manner an enraptured man, a dreary-feeling man, are not simply aware of their subjective states; if they were, the force of their feelings would evaporate. Both believe there is outward cause *why* they should feel as they do: either 'It is a glad world! how good is life!' or 'What a loathsome tedium is existence!' Any philosophy which annihilates the validity of the reference by explaining away its objects or translating them into terms of no emotional pertinency leaves the mind with little to care or act for. This is the opposite condition from that of nightmare, but when acutely brought home to consciousness it produces a kindred horror. In nightmare we have motives to act but no power; here we have powers but no motives. A nameless *Unheimlichkeit* comes over us at the thought of there being nothing eternal in our final purposes, in the objects of those loves and aspirations which are our deepest energies. The monstrously lopsided equation of the universe and its knower, which we postulate as the ideal of cognition, is perfectly paralleled by the no less lopsided equation of the universe and the *doer*. We demand in it a *character* for which our emotions and active propensities shall be a match. Small as we are, minute as is the point by which the Cosmos impinges upon each one of us, each one desires to feel that his reaction at that point is congruous with the demands of the vast whole, that he balances the latter, so to speak, and is able to do what it expects of him. But as his abilities to 'do' lie wholly in the line of his natural propensities; as he enjoys reaction with such emotions as fortitude, hope, rapture, admiration, earnestness and the like; and as he very unwillingly reacts with fear, disgust, despair or doubt,—a philosophy which should legitimate only emotions of the latter sort would be sure to leave the mind a prey to discontent and craving.

"It is far too little recognised how entirely the intellect is built up of practical interests. The theory of Evolution is beginning to do very good service by its reduction of all mentality to the type of reflex action. Cognition, in this view, is but a fleeting moment, a cross-section at a certain point of what in its totality is a motor phenomenon. In the lower forms of life no one will pretend that cognition is anything more than a guide to appropriate action. The ger-

minal question concerning things brought for the first time before consciousness is not the theoretic 'What is that?' but the practical 'Who goes there?' or rather, as Horwicz has admirably put it, 'What is to be done?'—'*Was fang' ich an?*' In all our discussions about the intelligence of lower animals the only test we use is that of their *acting* as if for a purpose. Cognition, in short, is incomplete until discharged in act. And although it is true that the later mental development, which attains its maximum through the hypertrophied cerebrum of man, gives birth to a vast amount of theoretic activity over and above that which is immediately ministerial to practice, yet the earlier claim is only postponed, not effaced, and the active nature asserts its rights to the end.

"If there be any truth at all in this view, it follows, that however vaguely a philosopher may define the ultimate universal datum, he cannot be said to leave it unknown to us so long as he in the slightest degree pretends that our emotional or active attitude towards it should be of one sort rather than another. He who says, 'Life is real, life is earnest,' however much he may speak of the fundamental mysteriousness of things, gives a distinct definition to that mysteriousness by ascribing to it the right to claim from us the particular mood called seriousness, which means the willingness to live with energy, though energy bring pain. The same is true of him who says that all is vanity. Indefinable as the predicate vanity may be *in se*, it is clearly enough something which permits anæsthesia, mere escape from suffering, to be our rule of life. There is no more ludicrous incongruity than for agnostics to proclaim with one breath that the substance of things is unknowable, and with the next that the thought of it should inspire us with admiration of its glory, reverence and a willingness to add our co-operative push in the direction towards which its manifestations seem to be drifting. The unknowable may be unfathomed, but if it make such distinct demands upon our activity, we surely are not ignorant of its essential quality.

"If we survey the field of history and ask what feature all great periods of revival, of expansion of the human mind, display in common, we shall find, I think, simply this: that each and all of them have said to the human being, 'The inmost nature of the reality is congenial to *powers* which you possess'. In what did the emancipating message of primitive Christianity consist, but in the announcement that God recognises those weak and tender impulses which paganism

had so rudely overlooked? Take repentance: the man who can do nothing rightly can at least repent of his failures. But for paganism this faculty of repentance was a pure supernumerary, a straggler too late for the fair. Christianity took it and made it the one power within us which appealed straight to the heart of God. And after the night of the Middle Ages had so long branded with obloquy even the generous impulses of the flesh, and defined the Reality to be such that only slavish natures could commune with it, in what did the *Sursum corda!* of the Renaissance lie but in the proclamation that the archetype of verity in things laid claim on the widest activity of our whole æsthetic being? What were Luther's mission and Wesley's but appeals to powers which even the meanest of men might carry with them, faith and self-despair, but which were personal, requiring no priestly intermediation, and which brought their owner face to face with God? What caused the wild-fire influence of Rousseau but the assurance he gave that man's nature was in harmony with the nature of things, if only the paralysing corruptions of custom would stand from between? How did Kant and Fichte, Goethe and Schiller, inspire their time with cheer, except by saying, 'Use all your powers; that is the only obedience which the universe exacts'? And Carlyle with his gospel of Work, of Fact, of Veracity, how does he move us except by saying that the universe imposes no tasks upon us but such as the most humble can perform? Emerson's creed that everything that ever was or will be is here in the developing Now; that man has but to obey himself—'He who will rest in what he *is*, is a part of Destiny'—is in like manner nothing but an exorcism of all scepticism as to the pertinency of one's natural faculties.

"In a word, 'Son of Man, *stand upon thy feet* and I will speak unto thee!' is the only revelation of truth to which the solving epochs have helped the disciple. But that has been enough to satisfy the greater part of his rational need. *In se* and *per se* the universal essence has hardly been more defined by any of these formulæ than by the agnostic x; but the mere assurance that my powers, such as they are, are not irrelevant to it, but pertinent, that it speaks to them and will in some way recognise their reply, that I can be a match for it if I will, and not a footless waif, suffices to make it rational to my feeling in the sense given above. Nothing could be more absurd than to hope for the definitive triumph of any philosophy which should refuse to legitimate, and to legitimate in an emphatic manner, the more powerful of our

emotional and practical tendencies. Fatalism, whose solving word in all crises of behaviour is 'All striving is vain,' will never reign supreme, for the impulse to take life strivingly is indestructible in the race. Moral creeds which speak to that impulse will be widely successful in spite of inconsistency, vagueness and shadowy determination of expectancy. Man needs a rule for his will, and will invent one if one be not given him."

After the emotional and active needs come the intellectual and æsthetic ones. The two great æsthetic principles, of richness and of ease, dominate our intellectual as well as our sensuous life. And, *ceteris paribus*, no system which should not be rich, simple and harmonious would have a chance of being chosen for belief if rich, simple and harmonious systems were there. Into the latter we should unhesitatingly settle, with that welcoming attitude of the will in which belief consists. To quote from a remarkable book:—

"This law that our consciousness constantly tends to the minimum of complexity and to the maximum of definiteness, is of great importance for all our knowledge. . . . Our own activity of attention will thus determine what we are to know and what we are to believe. If things have more than a certain complexity, not only will our limited powers of attention forbid us to unravel this complexity, but we shall strongly desire to believe the things much simpler than they are. For our thoughts about them will have a constant tendency to become as simple and definite as possible. Put a man into a perfect chaos of phenomena —sounds, sights, feelings—and if the man continued to exist, and to be rational at all, his attention would doubtless soon find for him a way to make up some kind of rhythmic regularity, which he would impute to the things about him, so as to imagine that he had discovered some laws of sequence in this mad new world. And thus, in every case where we fancy ourselves sure of a simple law of Nature, we must remember that a great deal of the fancied simplicity may be due, in the given case, not to Nature, but to the ineradicable prejudice of our own minds in favour of regularity and simplicity. All our thoughts are determined, in great measure, by this law of least effort, as it is found exemplified in our activity of attention. . . . The aim of the whole process seems to be to reach as complete and united a conception of reality as possible, a conception wherein the greatest fulness of data shall be combined with the greatest simplicity of conception. The effort of consciousness seems to be to combine the greatest richness of content with the greatest definiteness of organisation."[1]

The richness is got by including all the facts of sense in the scheme; the simplicity, by deducing them out of the smallest possible number of permanent and independent primordial entities; the definite organisation, by assimi-

[1] J. Royce, *The Religious Aspect of Philosophy* (Boston, 1885), pp. 317-57.

lating these latter to ideal objects between which relations of an inwardly rational sort obtain. What these ideal objects and rational relations are would require a separate article to show. Meanwhile, enough has surely been said to justify the assertion made above that no general offhand answer can be given as to which objects mankind shall choose as its realities. The fight is still under way. Our minds are yet chaotic; and at best we make a mixture and a compromise, as we yield to the claim of this interest or that, and follow first one and then another principle in turn. It is undeniably true that materialistic, or so-called 'scientific,' conceptions of the universe have so far gratified the purely intellectual interests more than the more sentimental conceptions have. But, on the other hand, as already remarked, they leave the emotional and active interests cold. The perfect object of belief would be a God or 'Soul of the World,' represented both optimistically and moralistically (if such a combination could be), and withal so definitely conceived as to show us *why* our phenomenal experiences should be sent to us by Him in just the very way in which they come. All Science and all History would thus be accounted for in the deepest and simplest fashion. The very room in which I sit, its sensible walls and floor, and the feeling the air and fire within it give me, no less than the 'scientific' conceptions which I am urged to frame concerning the mode of existence of all these phenomena when my back is turned, would then all be corroborated, not de-realised, by the ultimate principle of my belief. The World-soul sends me just those phenomena in order that I may react upon them; and among the reactions is the intellectual one of spinning these conceptions. What is beyond the crude experiences is not an *alternative* to them, but something that *means* them for me here and now. It is safe to say that, if ever such a system is satisfactorily excogitated, mankind will drop all other systems and cling to that one alone as real. Meanwhile the other systems coexist with the attempts at that one, and, all being alike fragmentary, each has its little audience and day.

I have now, I trust, shown sufficiently what the psychological sources of the sense of reality are. Hume declared that its source was the idea's liveliness; Hartley and James Mill maintained that it was its association with other ideas; Prof. Bain has said that it was its connexion with our motor nature. Each is right in part; so that my completer account is less simple than any of its classic

predecessors. I have not aspired in it to the slightest originality; I only hope to have woven the traditional doctrines into a less vulnerable whole than I have yet met in print. The absolute, uncriticised reality of the Self is the root of the whole matter, concerning which there is much more to be said, but not at this time and place. There is also much to be said about the connexion of the sense of reality with the Will. The will can change the relative power which objects have of compelling our attention. The will can increase or diminish our emotional and impulsive reactions upon them. The will can end by making us believe things through making us *act* as if they were real, although at first without belief. Belief and will are thus inseparable functions. But space is lacking to treat of their connexion, which I leave willingly untouched, since the masterly treatment of the subject by Renouvier is so readily accessible to every reader.[1]

[1] *Psychologie Rationelle* (1875), ii.

II.—THE PSYCHOLOGICAL WORK OF HERBART'S DISCIPLES.[1]

By G. F. Stout.

§ 1. *Distinctive Marks of the School.* It is convenient to draw a line of demarcation between those writers on psychology who are to be regarded as in the strict sense disciples of Herbart and those who have been more or less influenced by him without becoming members of his school. His doctrine of the psychological mechanism has become, under various modifications and restrictions, the common possession of scientific psychologists. On the other hand, his mode of deducing the fundamental laws of combination and arrest from a certain ontological view of the nature of the soul remains the peculiar property of the Herbartian school. This speculative bias of the Herbartians considerably influences their psychological views, leading them to a prejudiced interpretation of data derived from other sources. I propose, then, to rank among the disciples of Herbart those and those only who both (1) accept the doctrine of a psychological mechanism, and (2) use the absolute simplicity of the soul as a clue to the discovery of the elementary factors and processes which enter into this mechanism. It is, of course, impossible for me to do more in the present article than merely to notice some points of special interest in the doctrine of leading members of the school. Among these I select three for special consideration —Drobisch, Waitz and Volkmann.

Prof. M. W. Drobisch of Leipsic (now aged 87) has produced two important works on psychology—*Empirische Psychologie nach naturwissenschaftlicher Methode*, 1842, and *Erste Grundlinien der mathematischen Psychologie*, 1850. The latter work is merely an exposition of the synthetic part of Herbart's system, with some improvement on the mathematical treatment, but without any modification of the psychological doctrine of sufficient importance to require special notice. In the *Empirische Psychologie*, on the other hand, Drobisch endeavours to make what he calls an "autopsy" of the

[1] See previous articles in Nos. 51, 52, on "The Herbartian Psychology," and in No. 53, on "Herbart compared with the English Psychologists and with Beneke".

mind. Abstaining from all reference to metaphysical or mathematical considerations, he simply describes and analyses the facts of mental life as he finds them, writing down nothing to which his own inner experience did not "freshly and vividly" testify. He concludes by attempting to show that faithful scrutiny and registration of facts lead to the same general result which Herbart had reached by the aid of metaphysical principles. The simplicity of the soul is inferred from the processes of combination and arrest, and the evidence for these processes is derived from inner experience alone. The doctrine of the simplicity of the soul is then made to shed light on the data from which it was deduced. By employing it as a fresh point of departure, it becomes possible to formulate more exactly the fundamental laws of mental process, so as to prepare the way for their synthetic development in the *Mathematische Psychologie*, which was published eight years later.

Theodor Waitz (d. 1864, as extraordinary professor at Marburg) is perhaps the most original of Herbart's followers. His *Grundlegung der Psychologie*, published in 1846, is an able and careful investigation of the problem and method of psychology and of the sources and nature of psychological data. A great part of this work is occupied with the task of sifting out the really original data yielded by introspection from the unconscious inferences which are confused with them in ordinary thinking and in the writings of many psychologists. Waitz followed up this preparatory discussion of the aims, resources and methods of psychology by a systematic exposition of the science in his *Lehrbuch der Psychologie als Naturwissenschaft* (1849). Like Drobisch, he holds that the doctrine of the simplicity of the soul can be successfully maintained on purely psychological grounds without having recourse to a pre-established system of ontology. He differs from Drobisch in holding not only that such a psychological proof is possible, but also that it is the only one admissible. As stated by him, the proof has two parts or stages. He adduces in the first place certain considerations from inner experience and from physiological science which create an *a priori* presumption in favour of the principle of the simplicity of the soul as the most natural and tenable hypothesis. But for final verification of this hypothesis he refers to its successful working when applied to the explanation of the concrete facts of mental life. He differs from Drobisch and from most Herbartians in denying that the question concerning the nature of the soul can be finally and certainly decided by a formal argument.

Waitz traces with great clearness and fulness the course of mental development, which, originating in vague organic sensation, finally issues in orderly thinking and in voluntary self-control. He is especially successful in the analysis and explanation of highly complex mental phenomena.

W. Volkmann's great book, the *Lehrbuch der Psychologie vom Standpunkte des Realismus*, is by far the best known production of the Herbartian school in the domain of psychology, and, with the exception of Herbart's own writings, it is by far the most valuable. Published in 1875-6,[1] shortly before the author's death, in expansion of an earlier *Grundriss* (1856), it was reprinted in 1884-5, with some editorial additions (see MIND x. 146, 476). This work possesses a twofold claim to attention. In the first place, it contains an extremely full, clear and accurate treatment of psychological problems, written, indeed, from the Herbartian standpoint, but enriched and improved by a free and judicious use of materials supplied by modern research. In the second place, there is attached to the discussion of each topic a history of the psychological doctrines relating to it. This portion of Volkmann's work is invaluable. The arrangement of the historical matter in correspondence with the several divisions of the system presents certain advantages for purposes of reference which are not afforded by histories arranged mainly in order of time.

The headings of the following sections indicate important points on which Drobisch, Waitz and Volkmann either seriously deviate from Herbart's own teaching or supplement it in an interesting manner.

§ 2. *Philosophy as a source of Psychological Problems.* Why cannot psychology be made independent of metaphysics in the same way and to the same extent as the physical sciences? Like other natural sciences, psychology suggests certain ultimate questions which it cannot itself resolve, and which must be answered, if at all, by the metaphysician. But if, in this respect, its position is not peculiar, why cannot the psychologist imitate the procedure of the physicist, who pursues his investigations without troubling himself about metaphysical problems, preferring wide extent of well-secured knowledge to the "precarious profundity of speculative inquiry"? This question is discussed by Drobisch in the introduction to his *Empirische Psychologie.*

[1] Under the author's later designation of W. Volkmann Ritter von Volkmar. He died in 1877, professor at Prague.

His reply is, in substance, as follows: It is only in part possible to the psychologist to disregard metaphysical problems. It is possible to him only in so far as he confines his attention to the facts of consciousness as they exist in the ordinary mind, unmodified by reflective criticism. But psychology in its completeness is bound to explain the whole range of conscious life; it must therefore investigate the phenomena of the philosophic as well as of the pre-philosophic mind; it must analyse and explain the process of critical reflection by which the standpoint of ordinary thinking becomes changed for the standpoint of philosophy. In this region of inquiry psychology is necessarily dependent on logic, ethics and metaphysics, inasmuch as they supply its subject-matter. It thus becomes entangled in philosophical disputes. It must not permit philosophy to burden it with the explanation of pretended facts which are not genuine phenomena of the critical and reflective consciousness. In tracing the origin of the moral sentiments and judgments it is bound to take account of ethical doctrine. The problem set before it assumes a different shape according as the point of view of the intuitionists or that of the utilitarians is regarded as the true one. Similarly, the psychological explanation of the processes involved in logical thinking must vary greatly according as general concepts are held to be presentations actually given in consciousness, or are held to be merely logical ideals which the individual mind can only approximately realise. In such cases the previous metaphysical, ethical or logical questions must be already settled on metaphysical, ethical or logical grounds before the corresponding problem of psychology can be accurately and adequately stated.

The value of these remarks of Drobisch lies rather in the question which he raises than in the answer which he gives to it. He stands almost alone in distinctly propounding as a psychological problem the explanation of the genesis of the philosophic standpoint. There seems, however, to be some confusion in his statement of the case. Although he is fully aware that psychology, having only to trace the genesis of beliefs, is unconcerned with their validity, he seems to make an exception in the case of philosophical beliefs, for he requires that the psychologist shall only concern himself with those logical, ethical and metaphysical beliefs which he holds to be correct. In this he is even verbally inconsistent; for he tells us, in a passage occurring in this very connexion, that every scientific opinion, whether

true or false, is a mental phenomenon, and that therefore an account of it may legitimately be demanded from the psychologist. The origin of the Platonic theory of ideas is none the less an important psychological problem because that theory is now generally rejected by philosophers. Yet Drobisch was not, I think, wrong in maintaining that the truth or falsehood of logical, ethical and metaphysical views had a real bearing upon psychology. His error lay in supposing that they could have interest for the psychologist only in so far as they were themselves psychological phenomena. They also possess a psychological interest of quite another kind, inasmuch as they cast a reflected light on the point of view of the ordinary consciousness in which they have their origin. Philosophy is based on a logical criticism and development of the implications which are already latent in ordinary thinking. It follows that the philosopher alone can fully know what the position of common sense is, because he alone knows what that position logically implies. Correct logical, ethical and metaphysical theories must, therefore, supply a great, if not an indispensable, aid to the psychologist, inasmuch as they furnish him with a means of testing the adequacy of his account of pre-philosophic thinking.

§ 3. *Method.* The method of Drobisch (we have already seen) is an inversion of Herbart's. Herbart begins by deducing certain elementary laws of psychological interaction from the unity and simplicity of the soul; he then proceeds to apply the results thus obtained to the explanation of phenomena. Drobisch, on the contrary, in his *Empirische Psychologie* makes introspection his point of departure, obtains by induction the laws of combination and arrest, then finally infers from the existence of these laws the unity and simplicity of the soul. It thus appears that Drobisch believed that psychology might be and ought to be treated independently of any preconceived system of ontology. He believed that the best mode of bringing home to men's minds the real value of Herbart's work was to produce an empirical psychology worthy of the name, based on faithful description and analysis of mental phenomena, as they are presented to introspection. Nevertheless, we do not find any attempt on his part to defend the introspective procedure against the criticisms of Kant and Herbart. On the contrary, he reproduces these criticisms in their most cogent form. He thinks it sufficient to urge as an offset against

the difficulties and drawbacks of inner experience a single compensating advantage. In observing the variety and vicissitude of presentation, feeling and desire, we observe the very processes and elements which constitute our mental life. The psychologist is, on this account, in a better position than the physiologist or biologist, who, according to Drobisch, cannot observe elementary organic processes but only their results. If, then, psychologists make a proper use of their advantages, they are likely to make more rapid and satisfactory progress than physiologists. The fallacies of introspection must be guarded against. Premature generalisation must be avoided, and above all there must be no more masking of ignorance by vague talk about faculties. If these conditions are fulfilled, Drobisch is confident that impartial and assiduous introspection will yield adequate material for a satisfactory theory of mental phenomena.

Waitz, like Drobisch, regards inner experience as the ultimate source of psychological data. He does not, however, advocate the claims of empirical psychology as Drobisch conceived it. Being too deeply impressed with the drawbacks and shortcomings of introspection to undertake the task of observing and sifting mental processes without the help of some guiding clue, Waitz introduces at the outset as a working hypothesis the fundamental principle which he refuses to accept as a pre-established doctrine. The principle of the simplicity of the soul plays the same part in his writings as in Herbart's, except that he regards it initially as a provisional assumption which awaits verification. Verification is obtained by developing from it synthetically a general theory of mental life, and comparing this theory at every step with experience. Waitz does not, however, suppose that the point of departure for a general theory of mental life can be found in his fundamental hypothesis taken by itself. This, apart from inner experience, cannot form an adequate basis for synthetic deduction. We may by means of it determine the fundamental laws of the interaction of the most primitive and elementary states of mind. But the nature of these elementary and primitive states can only be known through inner experience. Fortunately introspection is here a safe guide. Sensations are the simplest mental states, and they are also the only psychological phenomena which can be observed with distinctness, and which can be voluntarily repeated as often as may be required. In psychology, therefore, it is necessary to proceed by synthetic construction from the simple to

the complex; for complex processes evade our scrutiny, whereas the simple factors which enter into their composition are easily observable. Accordingly, Waitz proposes to build up a theory of complex mental phenomena, by applying to sensations and their residua the laws of combination and arrest, which are the logical consequences of his provisional hypothesis. This theory is then to be verified or disproved by comparison with facts.

Herbart, in his larger work on Psychology, had pointed out, for the benefit of those who found themselves unable to follow his speculative reasoning, that the laws of interaction between presentations might be provisionally regarded as mere hypotheses to be verified by experience. The method of Waitz may be regarded as simply a development of this suggestion, except that he regards his procedure, not as a makeshift for those who can do no better, but as the only legitimate one. It may be fairly urged against both Drobisch and Waitz, and even against Herbart, that they virtually make introspection play a part which, on their own showing, it is incapable of sustaining. They all three dilate on the inevitable fallacies of inner experience, quoting the strongest statements of Kant on the subject. Nevertheless, we find Herbart admitting that psychological theories can be verified by comparison with the details of concrete experience; we find Waitz maintaining that such verification is the only kind of proof they are capable of; and we find Drobisch teaching, not only that they can be so verified, but that they can be originally obtained by induction from the facts revealed to introspection. Each of them seems to be more or less conscious of a certain weakness in his position, and each of them endeavours to fortify himself in a different way. Drobisch urges the directness of our insight into mental processes, as opposed to the circuitous procedure which the physiologist is forced to adopt. He fails, however, to show precisely how this advantage is to counterbalance the apparently insuperable difficulties, which he himself states in their full strength. Similarly, Waitz draws attention to the exceptionally favourable conditions, which, he alleges, remove the ordinary drawbacks of introspection in the case of the simple phenomena of sense-perception. He shows also how we may hypothetically construct from these simple states an explanation of more complex processes; but he does not tell us how it is possible to find satisfactory verification for this hypothetical construction in the confessedly ambiguous and precarious results of introspection, when it is applied beyond the

narrow range of the most elementary facts of consciousness. The position of Herbart seems more tenable. According to him, psychologically, theory can be safely tested by inner experience, only in so far as inner experience reveals difficulties and apparent contradictions which psychological theory removes. Supposing that such problems are real and of so definite a nature as to admit of one mode of solution, they may well serve as tests of the value of psychological hypotheses. It is, however, open to dispute whether the problems to which Herbart refers are of this kind. Even the conception of a self-conscious being is capable of being regarded, not as a difficulty which requires explanation, but as an ultimate principle on which the explanation of all else depends. Herbart's view may be correct; but the mere fact that the matter is open to dispute shows that he has not here found, as he supposed, a secure datum of inner experience.

This is not the place for a general inquiry into the method and resources of psychology. I may say, however, that in my opinion the difficulty felt by Drobisch and Waitz, in common with most psychologists who are aware of the fallacies of introspection, arises mainly from the tacit assumption that all psychological data are supplied by observation, either of one's own mental processes, or of the external manifestation of mental processes in others. The facts by which psychological hypotheses are to be verified or disproved are not derived from inner experience alone, but from all experience. Psychology investigates the manner in which the world comes to be presented to the individual consciousness. The world so presented inasmuch as it is a product of psychological process is a datum of psychology. The psychologist, therefore, is no more limited to introspection as his sole resource than the geologist is limited to observation of geological changes at present taking place, without regard to the stratified results of past processes.

§ 4. *The Psychological Mechanism.* Under this head I propose to consider mainly the views of Waitz, who alone deviates in a noteworthy degree from the teaching of Herbart. They diverge in the psychological application of the fundamental principle which is common to both of them. Waitz maintains that the coexistence of a plurality of different presentations, whether above or below the threshold of consciousness, is inconsistent with the unity and simplicity of the soul. He is therefore compelled to

deny the possibility of two contents being co-presented unless they coalesce and cease to be distinguishable. If a plurality of external stimulants simultaneously solicit the mind, each tending to excite it to a qualitatively different reaction, the resulting presentation can exhibit no corresponding plurality. One stimulus may overpower the rest, or all may co-operate to produce jointly a single effect; but in no case is the diversity of the conditions, which contribute to modify consciousness, expressed in the same moment of time by a corresponding diversity within the content of consciousness. This content is always simple and indivisible so long as it continues to be presented. Different presentations succeed each other in time, but they never coexist as parts of the same complex. We speak, indeed, of complex mental phenomena; but this complexity involves no plurality of coexistent elements, but only a plurality of antecedent conditions. No one has ever been more uncompromising than Waitz in advocating the doctrine that we cannot be conscious of more than one thing at a time. How, he asks, should the presentation of green be at the same time a presentation of red, so long as green itself is not red? The effort to think simultaneously of a tone and a colour, or of two different colours, without losing sight of their difference, is always baffled. While the mind is occupied with red, green eludes it, and *vice versâ:* sometimes the struggle to think of both at once causes both to elude us. Waitz here goes farther than Thomas Brown. Though Brown held that each state of mind is indivisible, and that the mind cannot be in two states at once, he yet maintained that in a single state of consciousness a manifold content might be presented.

In consequence of his denial of the coexistence of different presentations, Waitz was compelled to reject Herbart's account of the association of ideas. The ground of association, according to Herbart, is co-presentation. For Waitz there is no such thing as co-presentation. He is, therefore, forced to seek for the ground of association in exclusive succession. He accordingly tells us that the link by which presentations are united is to be found in the displacement of one presentation by another, the intimacy of the union being proportioned to the expenditure of energy required for such displacement.

The same reasons which lead Waitz to deny all plurality of coexistent elements within the content of consciousness lead him also to deny the persistence and consequent coexistence of mental modifications which have passed out

of consciousness. It is, indeed, admissible to speak of the unconscious residua of past mental processes, but these residua are not to be regarded as persistent states or activities. They are mere tendencies of the soul to return to the states in which it has previously existed. The best word to apply to them is "disposition". The actual presentation of a certain content predisposes the soul to renewed presentation of the same content. But though this nomenclature is the most accurate, it is not, in practice, the most convenient. Waitz finds that the explanation of special phenomena depends on the reciprocal relations of the "dispositions," each of which in proportion to its strength contributes to determine mental change from moment to moment. It is, therefore, necessary to speak of "interacting presentations," presentations stored up in memory, and so forth, instead of having recourse to such tedious circumlocutions as—"weaker or stronger predispositions of the soul to the presentation of this or that content". It thus appears that the divergence of Waitz from Herbart is after all not very important when considered from the point of view of the psychological mechanism. A plurality of determinate tendencies, supporting and counteracting each other, is not very different from a plurality of presentative activities, such as Herbart posited. There are, however, three distinctive features in the doctrine of Waitz which deserve notice. (1) He denies that the predispositions in any way determine the intensity of actual presentations. They determine which presentation shall occupy consciousness at any moment; but they do not either heighten or diminish the vividness of this presentation when once it is presented. (2) He holds that a disposition grows weaker and weaker in proportion to the number and intensity of heterogeneous presentations which occupy consciousness during the time in which it remains unrealised. (3) According to him, diminution in the strength of a predisposition is accompanied by diminution in the distinctness of the presentation which it tends to reproduce; so that contents of consciousness which were originally distinct and incopresentable, may blend with each other indistinguishably, when they are reproduced after a certain lapse of time. As regards (2) and (3), the view taken by Waitz seems more consonant with experience than that of Herbart. As regards (1), Herbart seems to be clearly in the right. The liveliness of a presentation may be heightened or diminished by its connexion with other presentations which are not themselves in consciousness.

I have devoted special attention to the disagreement between Waitz and Herbart, because of the light which it throws on the relation between the Herbartian metaphysics and the Herbartian psychology. If the simplicity of the soul, as Herbart understood it, can be made the basis of psychological reasoning at all, it certainly would seem to warrant the inference, which Waitz draws from it, that a plurality of coexistent mental states is impossible. Waitz seems to be in this point more consistent than Herbart. But in reality he is less so. In Herbart's procedure there is one—and only one—fundamental incoherence. His metaphysical speculation conducted him to the doctrine that the soul is an absolutely simple being; for psychological purposes he substituted, instead of the conception of simplicity, that of systematic totality. In so doing he was inconsistent, but the inconsistency was necessary and praiseworthy. Without it no psychology would have been possible for him. Waitz, on the other hand, was, in some degree, aware of Herbart's inconsistency without recognising the reasons which made it unavoidable. He saw that the simplicity of the soul logically excluded the possibility of a manifold of coexistent presentations. But he failed to see that it equally excluded the possibility of a manifold of successive presentations. He also failed to see that experience, and therefore psychology, would be impossible, if in each moment the mind were occupied with an absolutely simple object. He ought to have learned from Herbart's inconsistency that the doctrine of a psychological mechanism is not founded on a particular view concerning the nature of the soul, but on observation of the phenomena which are explained by it. His attempt to patch up the incoherence, of which he was only partially aware, served only to make it more glaring.

§ 5. *Feeling.* According to Herbart, agreeable feeling arises when and so far as the mechanical union of presentations has a counterpart in consciousness which is not in any way a modification of the presented content. Similarly, painful feeling arises when and so far as the mutual arrest of presentations has a counterpart in consciousness which does not affect the nature or distinctness of the presented content. The most important modification of this view is due to Volkmann. Volkmann regards all feeling, whether agreeable or disagreeable, as being directly or indirectly a consciousness of tension between presentations. Pain is, on this view, a direct consciousness of tension at

the time when the process of arrest is taking place, and pleasure is an indirect consciousness of tension, inasmuch as it is a consciousness of gradual release at the time when the presentation is again emerging into distinctness. Because both arrest and release from arrest are gradual changes, Volkmann prefers to speak of a becoming conscious rather than of a being conscious of tension. His view, as compared with Herbart's, is a pessimistic one. For if pain be merely the expression in consciousness of the process of arrest, and if pleasure be merely the expression of the inverse process of release, it follows that the amount of pleasure enjoyed can never exceed, and may fall short of, the amount of pain suffered. This consequence is not involved in Herbart's doctrine, according to which the mutual support yielded by presentations to each other is in itself an immediate source of agreeable feeling. On Herbartian principles it would seem that Herbart's view is logically justified, and that Volkmann's simplification of it is a mistake. If a preponderance of arresting over supporting forces produces a corresponding modification of consciousness, a preponderance of supporting over arresting forces ought to do so likewise.

Another change introduced by Volkmann in the Herbartian theory of feeling seems to be a decided improvement. Herbart holds that the process of arrest can only have a counterpart in consciousness, when the presentation assailed by repressive forces is so supported by others that it either does not sink at all or sinks more slowly than it otherwise would have done. The reason assigned by him is that the sinking of a presentation is a mere cessation of consciousness, and therefore cannot of itself produce a positive effect in consciousness. Volkmann rightly points out that sinking is always a gradual process. The presentation does not in any case yield to arresting forces all at once. It therefore retains for some time a greater degree of distinctness than is compatible with the conditions of mental equilibrium. So far as this is the case, the tension between it and opposed presentations, being a tension within consciousness, must take the form of disagreeable feeling. Inversely, mere release from arrest, apart from the operation of auxiliary presentations, must of itself give rise to agreeable feeling.

§ 6. *Apperception.* Modern German psychology has perhaps been more powerfully influenced by Herbart's doctrine of apperception than by any other part of his teaching. In

his own writings it is introduced at a comparatively advanced stage of the general exposition, as if it were merely a preparatory step leading up to the explanation of inner perception and of the Ego-consciousness. But it appears, from the part which it plays in his system, that the apperceptive process has a much wider range of application than this arrangement would suggest. For it is the fundamental process common to both outer and inner perception: indeed, their similarity in this respect is the sole reason which justifies the application of the word 'perception' to both of them. In some later writers, belonging to the school, we find this general arrangement reproduced; in others apperception is introduced at an earlier stage. Those who adhere to Herbart's order of treatment retain also for the most part his detailed account of the conditions and stages of the process itself. Those who in any considerable degree deviate from this order, for the most part differ from him more or less in their description of the process. Herbart's elaborate account of the stages of apperception would certainly lead us to regard it as a specially complex phenomenon, not as the general condition which mediates all definite apprehension of objects, whether external or internal. He is not content to define it merely as the assimilation of one group of presentations by a more extensive and powerful group. In his exposition, stress is laid on the division of the process into two well-marked stages succeeding each other in time: a first stage, in which the apperceptive group is passive; and a second, in which it is active. In the second the apperceived group suffers permanent modification; in the first the apperceptive group suffers momentary modification. Now, according to this account, apperception ought certainly to be regarded as a quite special phenomenon, confined to those cases of outer and inner perception in which the object presented arouses surprise by its novel or unexpected character. Accordingly, we find that Drobisch, who follows very closely Herbart's account of the two stages, takes care to distinguish between apperception proper and attention to objects, which involves no considerable disturbance of mental equilibrium.

The view taken by Drobisch is faithful to Herbart's express statements concerning the apperceptive process rather than to the general use which he makes of the conception. Waitz, on the other hand, regards apperception as an occurrence more primitive than any other except the primary affections of sense, and as the general condition

of all mental development. It is introduced by him at the outset of his inquiries in connexion with the doctrine of coenæsthesis. When many diverse external stimulants act coincidently with approximately equal strength, then, if previous mental development does not favour one of them in preference to the others, the result is that they collectively produce a single confused presentation. Each separate stimulus contributes to modify the mental state arising from their co-operation; but the effect of no single stimulus is separately perceptible. The modification due to the action of this or that mode of external excitation, in such cases, is said by Waitz to be apperceived by the coenæsthesis which all in combination produce. This is the most primitive case of apperception. It assumes a somewhat different form as the sensations of the special senses gradually emerge into relative distinctness instead of remaining mere modes or *nuances* of coenæsthesis. Even when this has taken place, complete detachment of the separate sensations is still impossible. However distinct they may become, they have always, so to speak, a background of coenæsthesis, from which they emerge and into which they are again merged. Thus the coenæsthesis continues to *apperceive* the special sensations. Again, the growing independence and detachment of the special sensations is itself due to the apperceptive process. At the outset of mental development, the predominance of this or that stimulus over others depends on its own physical intensity alone. But after the repetition of many sensations of like content, there arises a mental predisposition to the presentation of this content, concentrating within itself the aggregate strength of many single predispositions. This reinforces from within the action of corresponding external excitations and lends to the resulting mental state a vivacity and distinctness which it could not otherwise have attained. To this occurrence also Waitz applies the word apperception. The total presentation, or, more correctly, the total predisposition, which is the resultant of previous similar experiences, apperceives each new presentation having affinity with it. In general, Waitz conceives apperception as the process of the fusion of similars, by which distinction and definition grow up within the content of consciousness. It is curious that he nowhere expressly discusses the subject. He uses the word freely, and in this way fixes its application, but he does not give an explicit definition of what he meant by it. On the whole, his view of apperception seems to correspond better to the employment of

the word by Steinthal, Lazarus and other recent writers than does the teaching of Drobisch or Volkmann, both of whom adhere to Herbart's direct statement rather than to the implications of his general use of the conception.

§ 7. *Perception of Mental Processes.* Waitz, in agreement with Herbart, says that introspection consists in attending to the general form of a mental process, as such, rather than to its special object or content. He also agrees with Herbart in maintaining that a particular mental process can be perceived as such only when it is apperceived by a group of presentations distinct from those which enter into it as its constituent factors. This appercipient group is, according to him, always the presentation of the empirical Ego, which forms the central point of our total consciousness. In this also he is substantially at one with Herbart. But it is noteworthy that, omitting to refer to the more special apperceptive masses, corresponding to the several categories of inner perception, he passes at once to the Ego-complex, which comprehends them all. On the whole, however, he follows Herbart more closely than do either Drobisch or Volkmann. Drobisch connects the perception of mental processes with inner apperception in a manner suggested by Herbart's language, but not really accordant with his teaching. Whenever one presentation-mass fuses with another and incorporates it as an integral part of itself, the group thus assimilated stands to the group assimilating it in the relation of object to subject. Now, according to Herbart the perception of this relation depends on the operation of an apperceptive mass of the kind which he describes in treating of the categories of inner apperception. According to Drobisch, the relation is apprehended as such, without the intervention of any such group, whenever the process of assimilation meets with obstruction and delay. Now, it is this obstruction and delay in the process of assimilation which, on his view, constitutes the distinctive peculiarity of apperception. He ought, therefore, it would seem, to identify introspection with apperception in general, instead of confining it to inner apperception. That he does not do so is no doubt due to the influence of Herbart's doctrine as Herbart himself expounded it. The view taken by Drobisch seems to be sufficiently refuted by the single consideration that psychological processes which take place without any considerable interruption are often, as Waitz points out, more easily observable than those which involve a marked disturbance of mental equilibrium.

Volkmann also modifies, without, I think, improving, the doctrine of Herbart. Feeling, he says, being a consciousness of tension between presentations, is necessarily a consciousness, not of presented content, but of presentative activity. In feeling, therefore, lies the germ of inner perception. In order that this germ may develop into introspective consciousness, it is only necessary for the consciousness of presentative activity, as it exists in this or that group of presentations, to fuse with the consciousness of presentative activity in the total Ego-complex. Inner perception is thus the subjective aspect of apperception, bearing the same relation to consciousness of presentative activity as apperception bears to consciousness of presented content. Volkmann's view seems to be founded on a verbal confusion. When feeling is defined as a consciousness of tension between presentations, the definition can only mean that feeling is the mode of consciousness conditioned by a certain mechanical relation of presentative activities. Feeling is mere pleasure or pain; it is in no sense cognition, or the germ of cognition even of the psychological conditions which give rise to it.

In the foregoing sections I have referred only to the broad outlines of the work of certain of the most important psychologists of the Herbartian school. The merit of these writers consists largely in their analysis and explanation of special phenomena. I should thus have been able to do them more justice if my limits had permitted me to go into more detail. It does not appear to me that Herbart's disciples have effected much improvement in the essential features of his system. His own *Psychologie als Wissenschaft neu gegründet auf Erfahrung, Metaphysik und Mathematik* remains in many respects the best exposition of the Herbartian psychology. I propose now, in a concluding article, to treat of the influence which he has exerted on the development of psychological science outside the limits of his school.

III.—THE EMPIRICIST POSITION.[1]

By Professor A. Bain.

Empiricism is usually described as synonymous with "Experience"; implying that its sole method is to rest upon facts coming within the reach of common observation, and supplemented by proper inference. It is contrasted with the method given under the designations—*A priori*, Transcendental, and Intuitive; which method professes to discover truths outside experience, and independent of it.

The antithesis thus set forth is not sufficiently pointed or exact for the polemic of the present day. Some thinkers belonging to the *a priori* school avow themselves the advocates of a strictly experiential basis. On the other hand, a too literal grounding on experience will not suffice to establish what is essential even to empiricism itself. Either experience must have a liberal rendering, or there must be taken along with it something that will seem to savour of the *a priori* or intuitive.

Perhaps Experience is merely a matter of degree; the contrast of the different schools pointing only to greater or less exclusive dependence on it. Possibly, too, the empiricist may be aiming too high: he may fancy that he is trusting to experience alone, and be all the while deluding himself. I have little doubt that this is more or less true of the earlier votaries of the creed. Or, further, to rest all our beliefs on experience may be possible, and yet not easy. The natural difficulties attending every settlement of the ultimate-foundations of knowledge and certainty are readily aggravated by the ingenuity of hostile critics, who can contrive to involve the empirical position in meshes of self-contradiction, very hard to disentangle.

If I do not greatly mistake, the most definite contrast between empiricism and its opposite, stateable at the present stage, is, that Intuition, to whatever length it may be *suggestive*, is in no case *valid* without the confirmation of experience. The empiricist may not quarrel with intuitive or innate ideas, his quarrel is with innate certainties.

This distinction between suggesting and proving, between supplying notions and verifying propositions, is all-important

[1] Read before the Aristotelian Society, 21st January, 1889.

for our present aim. The two processes may frequently get entangled, but should, nevertheless, be kept separate. The schools of philosophy are divided on both, but mostly on the second. Inasmuch as the mode of regarding the infant mind as a *tabula rasa*, inscribed upon by sensible experience, and developed by conjunctions and successions of mere sensations, is not now the received doctrine of any school, the sharp contrast between intuition and experience, as the first source of ideas, no longer exists. It is possible that the other contrast, as regards validity, may still be sharp and distinctive of the conflicting views. Yet, here, too, there is a very important qualification. In some of the greatest questions at issue, we are agreed as to the matter of fact, and differ only as to the proper foundations or rendering of the fact. This pre-eminently applies to the matters in dispute under Causation and Perception.

Still, we must not regard the first of the two issues above named—the origin of Knowledge, whether intuitive or experiential—as indifferent, even when limited to origin. The battle of Innate Ideas is not fought out, nor is the point in dispute a matter of insignificance for ulterior bearings. The *apriorist* and the empiricist are still at variance here, too, and, therefore, it is of consequence that their respective positions should be clearly stated. The Kantians and post-Kantians have a view of their own, which the empiricist does not share in; and the difference must be made clear.

Epistemology.

I adopt this as a convenient heading for the problems relative to the first sources or Origin of our Knowledge. The title is usually made to cover Validity also, but, as the questions where that is prominent are to be handled singly and apart, I will go into it only so far as to make a beginning in the contrast of Intuition and Experience.

Innate Ideas.—Few, in the present day, uphold the formidable list of innate notions as enumerated by the *apriorists* of former days. Nevertheless, we are even now confronted with certain intuitive assumptions that are not in the empiricist's creed, and requiring of him a counter statement.

The Kantian 'forms,' not given by experience, and yet essential to our knowledge as we find it, are met by the empiricist's assertion that all ideas may be accounted for by our ordinary intellectual powers, co-operating with the senses; not confining ourselves, of course, to the individual lifetime. In fact, the empiricist, in adopting the *nihil est in*

intellectu, &c., would take along with it, as an essential of the dictum, the amendment of Leibniz—*nisi intellectus ipse.* Nay, more; he would also postulate, as being equally co-present, all the emotional and volitional workings of the mind; and, having done so, he would endeavour to dispense with every other pretended source of our ideas.

This, of course, lays upon empiricism the burden of accounting for the genesis of such imposing generalities as Space, Time, Cause, without the help of intuition in any shape. More serious yet is the demand for a fundamental assumption of Soul, or Ego, which, it is said, all the powers of sensation, introspection and intelligence fail to construct for us; indeed, the contention is, that these powers cannot even begin working unless it is already there.

The Universal and the Particular.—When it is maintained, on the one hand, that our knowledge begins in sense, being at the outset particular, and, on the other hand, that the real beginning is in the mind, the form being universal, there is a manifest necessity for the way being cleared by defining the terminology employed. More especially is it requisite to settle the import of sensation. What do we understand by an actual sensation of warmth, of sweet or bitter, of red or blue? Is it a simple, ultimate, unanalysable experience, or is it a combination of simple experiences? The answer is that, although such sensations express so-called individual facts, and are contrasted with general facts, which involve plurality, comparing, and the idea, they are by no means primitive or ultimate elements. A great deal has happened before I can taste sugar as I now do, and make use of that taste in comparing, and classing my sensible experiences. Sensation has one characteristic feature whereby it is contrasted with Perception, and with all the higher intellectual processes. It supposes actual contact with the sensible world, while these other processes involve only consequences or subsequent results of that contact. But sensation has not this property as abstracted from all the other operations; it needs the purely intellectual forces of difference, agreement and retentiveness likewise. Moreover, it implies a comparatively late stage in our mental history, a stage preceded by the repeated concurrence of all the intellectual energies with the numerous occasions of sensible contact. If we are to recall and express the foregone history from the first start, we must proceed, as we best can, according to the analogies of the mental workings as known to us. We are aware that there is a vital contrast between the individual and the general; we say with pro-

priety that the general must follow and rest upon the particular: nevertheless, it is equally true that a particular, as known to us, implicates a number of generals. I am right in saying that, in order to give the law of the tides for the British coast, individual observations must be made at a great many points; and, till these observations are made, the general law cannot be assigned. In such a case (and it is sufficiently typical for the experimental sciences), individual is absolutely prior, general absolutely posterior. The order cannot be reversed, nor can the dependence be reciprocated. The particular observations of high water at London Bridge implicate generalities, but not the generality of high water in the Thames. Quite a different class of generalities must be understood when we say that the simple fact of the time of high water at London Bridge, on a particular day, is a result of many generalising operations. That fact would not be what it is without a whole group of general notions—time, space, colour, motion,—every one of which had a history, and grew out of previous particulars, discriminated and compared.

If now we go back, in speculative imagination, to the first contact of the senses with the world, supposed to be the first moment of consciousness, and if we ask which is necessarily prior, the particular or the general, the obvious remark would be that these notions, as we now have them, could not then exist. I assume the powers of the intellect, in their most elementary form, to be Difference and Agreement, coupled with Retentiveness. If you ask which of these was first in operation, at the earliest conceivable moment of consciousness, I would say, most probably, Difference, but not in the developed form that we understand Difference, as, for example, when we are comparing two shades of colour. Agreement (the basis of generality) can hardly be the first move of consciousness, for it supposes two things. Difference, no doubt, ulimately does the same, but mere transition would give a primitive shock, while a second transition would make an approach to the consciousness of Difference, and a third might be such as to give Agreement,—Retentiveness being indispensable to both. Although we cannot formulate, with precision, these beginnings of consciousness, we have no great difficulty in supposing that sensation, working with the recognised powers of Difference, Agreement and Retention, could eventually supply our notions of the particular and the general as we find them. Because sensation is, in the maturity of knowledge, identified most with the particular, and the processes of intelligence,

apart from sensation, with the general, it does not follow that we began life by imbibing particulars, and gradually resolved them into generals. The particular and the general, in their ultimate nature, must move together. If it is not correct to say Difference and Particularity came first, and Agreement with Universality next, the assumption is equally unfounded that Universality is pre-existent, and Particularity derivative.

I regard, therefore, the concurrence of sensation (in the abstract) with the thought-processes as an ultimate fact of our mental history. Nay more, I regard that concurrence as a sufficient explanation of our intellectual progress, and our actual attainments. Of course, the powers of feeling and will are likewise at work, according as they are required, and co-operate in the final results.

There are two ways of taking exception to this postulate. One is by assuming the pre-existence of forms of thought, which of course must be generalities, and which do not need the support of particulars. In other words, the conclusion I have come to is crossed by the problem of innate ideas. If, however, it be a self-contradiction to assume a generality not embodied in something particular, the postulate still holds good. All we contend for is that universal and particular must, in the last resort, proceed together. The innate forms would be forms where universality and particularity are strictly co-inherent.

The second objection is one that has arisen from the supposed incapacity of the mind to take in a series, or to view at the same moment, the several relations of that series, as prior and posterior, greater and less, with all the other distinctions and agreements among the individual members. If it were said that mere sensation, that is, sensation pared down to its most abstract meaning, could not do all this, the objection must be allowed. But sensation does not work in pure isolation; it is backed by the entire resources of the intellect. It has still its characteristic feature to distinguish it from all the varieties of the idea; but it is never at work unsupported by intellectual forces. When, however, all such forces are allowed for, I am at a loss to perceive the difficulty. If memory or the retentive power cannot hold a series in the consciousness, I should like to know what it can hold. By memory we string together the alphabet; what comes first we call first, or prior; what comes last exemplifies the meaning of last. By our other intellectual powers we detect relations of difference and agreement in different members of the

succession, the difference of *a* and *b*, the agreement, with diversity, of *a* and *e*, and so on.

In short, it seems to me that our powers of mind, as we actually experience them, in the maturity of our thinking faculty, can, without undue strain, account for the beginnings. What inability may seem to belong to them comes solely from our gratuitously narrowing their scope in the view of establishing our dependence on some extraneous agent, a *deus ex machina*.

The notion of Space.—The deadlock of Space and Matter, taken at their absolute commencement, must be dealt with, in the same fashion as the deadlock of Universal and Particular. Evidence fails in trying to show that, without a pre-existing universal, no particular could ever have been cognised. Equally wanting is the proof that, without a pre-existing cognition of Space, no sensible concrete space, with material contents, could have been imparted. It is supreme assumption in both cases. Taking us back to the origin of thought in the animal race, it takes us out of the reach of evidence direct, and leaves us solely to our present judgments of the way that Space is related to our several sensibilities. We must, therefore, remand this problem to the discussion, now in progress, as to the genesis of Space out of sensations and muscular elements.

Innate Propositions or Truths.—Many of the so-called innate ideas are propositions in disguise; there is no well-sustained line of division between notions and truths. The notion of Cause, when unfolded for the purpose of being canvassed or discussed, is seen to be a very formidable law of things. Space can hardly be treated apart from the axioms of geometry. The intuitions of consciousness, sometimes called Common Sense, are matters to be believed, and not merely to be conceived.

Here then we are face to face with Validity. As already stated, the *apriorist* and the empiricist part company, not so much on the fact of intuitive suggestions, as on their value as truths. Intuition, if it means anything, implies that its suggestions are true of themselves, are their own evidence, without the verification of experience, and may therefore be made to override experience.

Intuition, or common sense, in the eye of the empiricist, has at least a provisional value. It is *primâ facie* to be accepted, and acted on as presumptively correct, pending the requisite steps for its verification. It stands for what the mathematician would call, a first approximation,—to be rendered exact by subsequent collation of facts. The

contents of consciousness must, at the outset, be interpreted as we find them. When Hamilton asks how consciousness can ever be adduced against itself, the answer is, that frequently repeated acts of consciousness are valid as against a first and isolated impression. If we are to state a mode of consciousness that is to set aside all other modes, it is the consciousness of consistency after many repetitions. There may be fallibility here too; nevertheless, it is the final court of appeal, and we must abide by it in spite of its imperfections. We are not bound to accept any single interpretation of consciousness. The nearest approach to certainty in an individual reading is when we affirm the fact of a present sensation—I am conscious that I am warm, that I am in the light, that I am standing upright. These readings of present consciousness are received as probably and provisionally exact. They are, nevertheless, subject to further examination, which may show sources of possible fallacy or illusion, to be guarded against, and allowed for. When extensive inquiries have made us acquainted with all the possibilities of delusion and mistake, we may ascertain whether any such occur in the supposed case, and, finding none, we accept the testimony of present consciousness as final and satisfactory.

The illustration from Memory is still more instructive. It is necessary for the practical guidance of our life that we should accept as true the revelation of memory: that what we remember once happened, and is not a dream or an imagination. This, too, we accept provisionally, as a first approximation. It is still more liable to mistake than the other case, and is still more in need of the confirmation or correction of experience, which alone can show under what circumstances memory is practically infallible.

It would be substantially the same thesis in another form, to substitute for present sensation, the present discrimination or agreement of two sensations either co-present, or in rapid succession. Whether two shades of colour are the same, or different, is an ultimate determination of consciousness. Yet, while presumably correct, and actually so, in the vast majority of instances, it is open to rectification, and may possibly be wrong. A sufficient experience tells us in what cases it may mislead, and under what circumstances. Thus forewarned, we can receive the dictum of our immediate consciousness with perfect reliance.

With these explanations, we can now formulate the empiricist's test of Validity, and the only test that he can acknowledge. It is consistency, or *the absence of contradiction*,

throughout a sufficiently wide range of conscious experiences. Consciousness cannot be transcended, but it may be manipulated. All its isolated revelations have to harmonise with its concurrent and collective revelations. The supreme assumption that we can make is that *the uncontradicted is true;* by this all intuitions are brought to the test of experience. Under the following head, the true character of this highest assumption will be made apparent.

Cause—Uniformity of Nature.

The question of Cause is by pre-eminence the battle-ground of the schools. Hume's doctrine of Cause awakened Kant's antagonism, and to this day it is disputed whether Kant's reply was a success.

The questions designated by the terms Cause and Nature's Uniformity are philosophically identical: that is, the difficulty to be overcome is the same for both. The least encumbered expression of the point in dispute is the second —the Uniformity of Nature. Whether the validity of this law can be established by experience alone is the gist of the whole affair. Must, then, the empiricist, in order to be true to his creed, hold that experience establishes the *necessary connexion* of cause and effect, in the form that 'what has been will be'? I reply, in the words of Hobbes, that "experience concludeth nothing universally". This is sound empiricism, according to my apprehension of it. We allow that experience teaches what has been, but in order to read the future, we need the *assumption* 'what has been will be,' the future will repeat the past. This assumption is clearly out of experience, in any usual sense of the word; its guarantee must be sought in some other sphere.

A very simple way of disposing of the question is to call the future continuance of the present order an identical proposition, as is done by M. Taine and by Lewes. They assume a principle of identity in natural facts, irrespective of time and place. In the laws of nature, they say, to-day and to-morrow are the same. Time is not one of the conditions that enter into Cause and Effect. So with Space, excepting in known cases that we allow for, such as the variable force of gravity.

M. Taine quotes Claude Bernard, as formulating the same axiom, thus, 'In identical conditions, every phenomenon is identical'. Does this get us out of our difficulty? It does, by begging the question that time and space are not conditions of cause and effect. If you are satisfied on that point, then

you can admit the axiom: if you are not satisfied, not. We know, as a fact, that recorded time has not changed the law of gravity: to say that time will never change the law is simply to repeat the assumption of uniformity; and we are no nearer. It is as easy to assume the axiom in terms of the Uniformity of Nature, as in terms of the indifference of time.

If the law in question be really an identical proposition, he must be a hardy individual that would deny it. Yet it is denied in the several doctrines of miracles, answer to prayer and free-will. For, although some theologians escape the difficulty by affirming that a miracle is not an exception to law, but the intervention of another law to modify the routine of physical uniformity, yet there are others that repudiate this solution. If I do not misconceive Dr. W. G. Ward, he held the absolute intermission of the natural order in such cases.[1] I believe this was the view of Dr. Chalmers and Sir D. Brewster.

Of course, it is possible that a man may be so far led astray as to deny an identical proposition; there being no form of delusion that has not imposed upon somebody. Yet I would rather hold that the supposed identity is a doubtful matter, and ought not to be too confidently insisted on.

Let us next examine the view that refers the belief in uniformity to Intuition. All that I need say upon this is, that it begs the primary assumption twice over. For, first, would we accept intuition generally as a ground of proof without at least the confirmation of experience—that is to say, without our having found, in innumerable cases, that it accorded with fact? Well, this confirmation could be obtained solely upon cases that had actually occurred, and could justify future cases simply on the assumption of the uniformity of nature.

And, in the second place, among intuitive tendencies we have to distinguish the fallacious from the genuine. Some are found to deceive us, and experience alone can make the separation. In fact, the sweep of intuition is not wide enough for the assumption that comprehends the entire order of the world.

I will next refer to Mill's statement of the principle, which

[1] "We do not ourselves admit that the uniformity of nature is by any means so complete as phenomenists consider. Their statement indeed, as it stands, is directly anti-religious: it denies the existence of free-will and of miracles; and it virtually denies also the efficacy of prayer, whether offered for temporal blessings, or for strength against temptation, or for progress in virtue" (*Dublin Review*, Jan., 1882).

has often been put down as a self-contradiction, because it makes the rigour of induction dependent on the looseness of simple enumeration. Many times over has Mill's account of the Inductive Methods been treated as having no substantial basis; which I think could hardly be done after a reasonable attention to his chapter entitled "Evidence of Universal Causation". Let us see how he states the fundamental assumption. After giving the evidence of experience to the unbroken uniformity of cause and effect, he regards it as a *matter of course* that this should hold in the future. His reply to Reid, Stewart and W. G. Ward, who say naturally enough that the past is past, and not future, is merely a verbal term borrowed from Priestley, namely, that what is now past was once future; which still leaves open the possibility of a cessation or interruption. When an occurrence is past, the proof is complete; it is covered by real experience: not so what is to come. In short, the leap to the future must still be begged; it cannot be guaranteed by anything external to itself.

The term Experience is not fitted to designate an assumption that outsteps experience. That assumption must stand by itself; it is wholly unique. It can rest upon no outside foundation. It is the self-contained, self-sufficing groundwork of the universal cosmos. Without it, we can do nothing; with it, we can do everything. It requires experience to this extent, that past uniformity must first be established: there must be no exceptions, no contradictions, in the foregone instances; consistency in the past being once secured, we postulate the same in the future. If, when the future becomes past, an exception arises, that case must be withdrawn from the sphere of uniformity, all else remaining.

Newton's third Rule of Philosophising begged uniformity, as regards extension in Space, under these terms:—"Qualities of bodies that can neither be increased nor diminished, and *that obtain in all bodies accessible to experiment, must be considered qualities of all bodies whatsoever (pro qualitatibus corporum universorum habendæ sunt)*".

Although the problem of Cause, as put by Hume, is fully exhausted under the Uniformity of Nature—its essential difficulty being there set forth with the least extraneous encumbrance,—nevertheless, Uniformity has a still wider scope, and gives birth to other varieties of the empirical problem. But, before turning to these, I will add some remarks by way of disposing finally of what relates to Cause. The slightest attention to the controversies that have sur-

rounded this word will show that the settlement of Uniformity does not settle every disputed point.

The greatest controversy of all relates to the ultimate nature of Causation, as either purely physical or purely mental. It is affirmed that, in the last resort, mind alone is cause, that will is the proper type of moving energy, that in gravity, for example, we must assume something called 'power,' and power inheres only in a spiritual being or a mind.[1]

This is a point that I have abundantly argued elsewhere, and its only standing here is as related to the empiricist position. Must the empiricist, under penalty of losing caste, embrace the purely material causality?

When it is said, that the uniformity of nature, besides its *a posteriori* confirmation needs an *a priori* belief in addition, that "it is an intuitive and necessary postulate" (Helmholtz), this is only what the empiricist says in his own language. It does not reach the establishing of the mental origin of all material effects. To say whether we are to rest satisfied with affirming the sequence of the sun, as a hot body in the centre of our system, and the heating, lighting and gravitating of the earth, or must conjoin a will or mind with the solar efficiency, is quite a problem by itself.

For all practical purposes, the assumption seems unnecessary, if not an encumbrance. Ockham's razor would make short work of it. When, however, we examine closely the language employed in supporting the mental origin of moving power, we discover that the stress is really put upon the primeval Cause, or first origin of the world, which is quite a different speculation. Whether, in the history of the universe, matter or mind be absolutely prior, is the question of Theism, and does not belong to the Law of Causation, as coming under Nature's Uniformity. Yet it is not excluded from the domain of our philosophical discussion; and will re-appear in another part of this paper.

The remaining questions bearing on Cause arise more in

[1] This is a doctrine found among metaphysicians and physicists alike. It is given with a perspicuity that cannot be mistaken in Herschel's *Astronomy*. He says, of gravity, falling bodies are urged "by a force or effort, the direct or indirect result of a *consciousness* and a *will* existing *somewhere*, though beyond our power to trace; which force we term *gravity*". Surely there is a great over-straining of analogy in this supposition. Will, in its very essence, supposes motives, and these motives are *feelings*. Unless we can assign some antecedent feeling, we are not at liberty to designate a cause as will. Now, I should like to know what are the sun's feelings in keeping the earth in its orbit!

the physical than in the metaphysical region. They are of some importance to the physicist, but he should be left to settle them in his own way. Objection has been taken to Mill's definition of Cause, as the entire aggregate of antecedent conditions or circumstances requisite to an effect. A statement so comprehensive would seem beyond the reach of cavil, and I will not counterargue the objections. My remark is that, for all physical inquiries, and even for metaphysics, a great advance may be made upon Mill's statement by help of the doctrine of the Conservation of Force. How this may be, and with what explanations and limitations, I have endeavoured to show in my *Logic of Induction*, p. 20, and my present object does not require me to repeat, even in summary, the conclusions set forth. I merely indicate the point by way of showing what questions may still be raised on the subject of Cause, after we have dealt with it in the shape of Uniformity, in which shape Hume's difficulty is embraced to the utmost.[1]

The full range of Uniformity is identical with the range of Induction. If the statement of the inductive problem is thorough-going, such statement will suffice for indicating the sphere of Uniformity. It was once very common to

[1] Dr. Martineau adverts to the insufficiency of the statement of cause and effect, in the absence of an independent idea of power, and quotes from me the following expressions:—"A flying cannon shot is a cause, the tumbling of a wall is the effect". "The use of the additional word 'power' is a pure expletive or pleonasm, whose tendency is to create a mystical or fictitious agency, in addition to the real agent, the moving ball." He then (*Study of Religion*, i. 164) remarks:—"If the author of the criticism would try the effect of it upon the officers of the Royal Engineers, he would find, I believe, that the 'expletive' which he derides was not without a meaning to persons acquainted with cannon balls, and the mystical element was actually reducible to figures, and the object of innumerable problems far from being insoluble, and still farther from being fictitious". The fact is, however, that what is reducible to figures is not the mystical element at all, but the element that I assign as the real operative cause, that is to say, the moving mass. A Royal Engineer knows what a given ball with a given velocity means, and can calculate, by mechanical equivalents, what motion it will impart to the wall when it strikes. This is the whole of his knowledge, and the only circumstance relevant to his purpose.

If Dr. Martineau had learnt his physics in the school of Thomson, Tait and Balfour Stewart, he would have handled physical causation in a different way from what he does. He would have adopted as the type of a physical cause, not gravity, but the impact of a moving mass upon some other mass. Gravity has to be brought into the circle of prime movers, but the mode of rendering it is peculiar; and it is not the first to be considered. The phrase, *tendency to motion*, which Dr. Martineau finds unmeaning, would come readily under the designation 'potential energy,' which is now classical and indispensable in Physics.

define Induction as the process of arriving at the effects of all causes and the causes of all effects. There would also be included the pushing of these causes to the utmost stretch of generality. Both points are perfectly relevant, yet not exhaustive.

An important step was taken by Mill when, under the Import of Propositions, he sought to express the most universal predicates of nature. He reduced propositions, in the last resort, to Existence, Co-existence, Succession, Causation and Resemblance. I do not here repeat (although I may have to advert to it for another purpose) my objection to Existence as a predicate, nor do I give the reasons for omitting Succession in the abstract, thereby reducing the predicates to three, and so limiting inductive inquiry to three departments—Causation (by so much the largest that it is practically the whole), Co-existence, under the special mode of Co-inhering Attributes, and Resemblance, as the foundation of the Science of Quantity, or Mathematics.

While granting that Causation is still the chief exemplification of Uniformity, the other two departments, as I have reviewed them, possess significance, each in its own way, with reference to the controversies that are now engaging our attention.

For a law or uniformity of Co-existence, I refer to the cases where two properties are conjoined through all nature; so that whatever substance embodies one possesses also the other. I have gone fully into the search for such laws, and have had to come to the conclusion that they are exceedingly few. Most of the apparent instances are probably results of Causation, and therefore not pure examples. I am able to cite one, and only one, unequivocal instance; but that is sufficient to provide a study of the logic of the case, as coming under the principle of Uniformity, and requiring a special inductive treatment. I mean of course the law of gravity. By this law there are coupled throughout material nature, two distinct (and so far as we can judge) independent properties, the one expressed by inertia, the other by gravitation, or mutual attraction according to the inverse square of the distance. Now, by what criterion do we affirm the universality of this law? Is it an identical proposition; and, if not, is it established by Experience alone, by Intuition alone, by Experience with the aid of Intuition, or by Experience with the aid of an assumption similar to that made for Causation?

That it is an identical proposition, I suppose no one will allege. That it is established by Experience alone, in the

rigid form of observation of what has actually occurred, must be refused at once. The real point then is the same as with Causation,—why do we presume that what we have observed, within a certain limited sphere of time and place, shall hold in all times and in all places? Does any form of Intuition assist us? I say no, for the same reasons as before.[1]

The classification of Universal Judgments is not complete without adverting to the primary laws of Resemblance or Equality. These are the foundations, the so-called Axioms, of mathematics; and the source of their validity is one of the standing controversies relating to Innate Ideas.

This debate has been needlessly complicated and prolonged by the confused state of Euclid's list of axioms. Half a century ago, De Morgan showed how needful it was to reconsider that list; but, hitherto very little attention has been paid to his advice. The mixture of propositions with definitions—of synthetic with analytic judgments—has caused a great waste of controversial strength from Kant downwards. One important modification to be found in recent editions of Euclid—namely, the withdrawal, from the enumeration of axioms, of the proposition 'Two straight lines cannot inclose a space' wholly deprives that historical example of the character of a synthetic judgment.

After purifying the enumeration of Euclid from definitions and from secondary or deduced propositions, I agree with Mill that only these two genuine Axioms are left—'Equals of the same are equal,' and 'The sums of equals are equal'. On these, together with the Definitions, properly used, the whole fabric of mathematical science may be shown to rest.

To come at once to the point:—Is the truth of these Universals based on experience or otherwise? Are they identical propositions, to begin with? Take 'Equals of the same are equal'. If this is compared with the definition of equality—'Magnitudes that coincide are equal'—there is obviously an advance in predication; the definition is

[1] There is a complexity here that I am not strictly called upon to unravel, although I think right to mention it. Gravity is properly regarded as a cause, and therefore as included within the predicate of Causation. Nevertheless, the previous question holds,—Is *all inert matter* possessed of this property? As a law of Causation it would still operate, although there might be exceptions to its concurrence with material bodies. For example, there is even yet a doubt as to whether the ether gravitates.

immediate comparison, the proposition is *mediate* comparison, in order to establish equality.

Accordingly, I maintain that the axiom is not an identical assertion, but a real or synthetic proposition. This being so, do we believe in it from experience, or, as Kant held, *a priori?* Much argument has been adduced on both sides. As to Experience, I repeat the remark made upon the other universals, that experience only shows what has been tried in the past; it cannot authenticate the untried cases, without the assumption that what has been, and never contradicted, will be, in the future. On the side of Intuition, it has been argued, first, that experience cannot transcend itself: this of course I admit. Next, it is said, that we have an instantaneous and overpowering conviction of the truth of these axioms, far beyond what our personal experience could account for; hence the need of referring them to an innate, intuitive or engrained conviction. This is the case on the one side; and the empiricist has to confront it with a case on his side.

I assume that everyone knows something of the debate between Mill and Whewell, wherein Mill set forth the nature and amount of our experience of space-relations, in which he was powerfully backed by a remarkable passage from Sir John Herschel in the same sense. I shall somewhat vary the statement of the position by Mill and Herschel, and endeavour to fortify its weak places.

I begin, however, by demurring to any intuitive explanation, as having the inherent defect of every intuition—namely, fallibility, until corroborated by experience.

Now, as to the sufficiency of Experience. It is not an easy calculation to compare the strength of the conviction that, 'Equals of the same are equal' with the corroboration of each one's personal trials of the fact. Nobody is ever questioned on the point, or brought into court as a witness, till a mature age. What amount of conviction would be produced by twenty years' experience of comparison of lengths among familiar objects (there being not a single contradictory instance), by the authority of Euclid and all geometers for two thousand years, by the universal concurrence of artisans in the employment of the three-foot rule, which would be vicious if this axiom failed,—I am unable to express in terms of definite amount, and can only describe by the strongest of our adjectives of degree, as great, enormous, overpowering. Whoever has been a little behind the scenes in the noble science of mathematics is aware of its occasional traps and juggles, and is cautious in implicitly

accepting its so-called demonstrations. But, in the simple operation of comparing two yard-rods respectively with a third, and then with one another, we cannot discover a possible opening for even the adroitest conjurer to deceive us; so that mankind have long surrendered themselves to Euclid's dictum, in the most unqualified manner. The mildest fate of a dissenter would be the lunatic asylum.

I have not taken advantage of the supposed hereditary transmission of space-cognitions, which has given a new turn to the present controversy, and which, in fact, ought to reconcile the opposing parties to the acceptance of the criterion of experience on this enlarged basis. Undoubtedly there are very important facts, that seem to require this transmission of space-experiences; and, so far as it holds, such transmission augments the force of conviction in such elementary truths as the axioms in question, while not at all dispensing with the verification and corroboration of each individual's own personal trials.

Perception of a Material World.

That Empiricism in dealing with this question must adopt the idealist view, I have argued over and over again; and I can say nothing better respecting it than I have already said. That the whole question is a language-difficulty, plus men's persisent endeavour to jump out of their own skins, and not a difficulty in the constitution of things, is the only conclusion that I can come to.

As my intention throughout is to state, and not to argue, the position of the empiricist, I have to deal with objectors only in so far as they maintain that he is unable to hold this position in its purity; that he does, in point of fact and inevitably, drag into it assumptions borrowed from the very sources that it renounces. The present question puts a greater strain upon Empiricism than probably any other.

In the Perception of the Material World, what we all admit, and practically proceed upon, is the uniform recurrence of definite sensations with definite movements. This is matter of fact, or of experience, and needs no presuppositions, beyond the exercise of our known powers of sense and intelligence. Now, under the law of uniformity—as already established on the basis of experience, coupled with the assumption that what has been will be—we generalise these concurrences and extend their sphere in space and in time. We believe that what has happened in our little circle happens elsewhere, and that what happens now will happen

in the future. Our expectations, in fact, are made universal, both in place and in time: our confidence is thus raised to the utmost pitch of security; so long as the past and present all point one way, so long do we trust that the future, when its turn comes, will be the same. Closing a shutter, we have the sensation of darkness; re-opening it we have light, and a certain definite visibility: so uniform is this in our experience, that we carry it back to primeval man, and forward to the latest survivor of the race.

So far we have confined ourselves to the fact, as eked out by that indispensable assumption which fact alone does not give. There is, however, a demand for more. When I shut out the light by closing a shutter, I am told that I must say also, that the light exists outside the room, that the sun is there whether I see it or not: the meaning of which is that, on re-performing the act of opening the shutter, I shall again experience my former sensations of visibility. This, of course, is all that we are practically concerned to know; give us this assurance, and you can add nothing to our happiness or to our belongings. Now, to obtain this satisfaction in the fullest measure, we need only to apply the law of Uniformity to our unbroken experience in the past.

Realism, on the other hand, is not contented with the assurance, however strong, that we shall always encounter certain sensations on performing certain definite movements. It further demands that, in the intervals of perception, the sensation-giving things shall be declared to be in actual existence, although unperceived. As a convenient hypothesis, or fiction, this is perfectly allowable: it seems to please everybody, and not to harm anybody.

Where then is the pinch of difficulty? Why here, and here only. The realist's manner of existence, unperceived, is taken as the actual mode of existence of the thing in itself, independent of, or apart from, anyone's perception. This is just what the empiricist should not allow. Even if, in deference to human weakness, he were to say that a *something exists* apart from perception, he might be charged with palpable inconsistency. Mr. Spencer gets over the difficulty by reducing the permanent something to resistance and a *nexus*, omitting the properties of colour, sound, touch, taste, odour, temperature, as depending upon perception. Yet, an absolute resistance is conceived by us simply as it acts on a percipient. Our only chance is to go to the utmost limits of abstract terminology—a something, a potentiality, a featureless noümenon. The sole advantage would be to humour our weakness and want of confidence in the

future and in the past, under a total interruption of percipiency. Throughout this period of blankness, we might postulate persistence, we do not say of what, except that it will re-appear so and so, when perception is resumed.[1]

Space.—The Space-question readily allies itself with the Perception-question, yet has to be viewed apart, in consequence of its other bearings.

One aspect of it has already occurred in treating of the validity of the mathematical axioms.

Another aspect, not susceptible of being wholly disjoined from the foregoing, relates to the origin of the notion, whether intuitive or experiential. On this point an opinion has already been offered.

Yet distinct is the problem of the *import* of Space,—whether it is a transcendental something, or simply scope for movement more or less. The empiricist position is that it is concurrent with our experience of motion, and has no meaning out of that experience. This is contradicted in the psychological rendering of space by massive sensation through all the senses. An empiricist might of course hold this view as opposed to *apriorism;* but few accept it in absolute independence of all feelings of movement. As scope for movement, space performs every function that we attribute to it in practice. Anything beyond is unstateable and inconceivable, and, to the empiricist eye, a pure fiction vamped-up for a transcendental use. If so, experience of movements, and the feelings thereby produced, are the full and adequate genesis of the notion of Space, which is therefore of purely *a posteriori* origin. How we come by the Infinity of Space is made a difficulty; but the constructiveness of thought can get us out of all this.

THOUGHT AND REALITY.

How far this is an advance upon the Perceptive Problem has now to be seen. The various contrasting designations—Knowing and Being, Relative and Absolute, Thought and Reality, Knowable and Unknowable, Phenomenon and Noümenon, Things as they appear and Things-in-them-

[1] "To speak of 'knowing' 'things in themselves,' or 'things as they are,' is to talk of not simply an impossibility, but a contradiction; for these phrases are invented to denote what is in the sphere of *being* and *not in the sphere of thought;* and to suppose them 'known' is *ipso facto* to take away this character." (Dr. Martineau, *A Study of Religion*, vol. i., p. 119.)

selves—all point to a single issue, of which they are mere varieties of expression, although slightly differing in the manner of attacking the difficulty.

It will be convenient to begin the consideration of this further inquiry by reviewing the series of names now enumerated; the design being to choose the particular antithetic couple that best discloses and sets forth the matter in dispute.

Existence.—I begin with Existence, or Being, as the least involved with complications. It admits of being discussed as one of the five universal predicates of Mill, in his enumeration of Propositions. I have formerly maintained that this is not a real predicate, that it is, in fact, unmeaning as a philosophical term, being an elliptical mode of stating what is given under some other predicate; and I do not here re-argue the position. It is enough to refer to the best illustration of this view, namely, the manner of conducting the argument for the Existence of the Deity, from which one can see that the question at issue is not Existence but Causation.

Whatever philosophical discussions may have been raised on Being in the abstract ought, I think, to be relegated to some other leading term; inasmuch as the view now taken of that word would disqualify it from being the central term of any intelligible debate.

The Absolute.—This term, in common use, means the unconditional, or whatever is said to be exempted from all conditions. An 'absolute' surrender is a surrender without terms or conditions, and places the conquered at the mercy of the conqueror.

This rendering gives little or no assistance in philosophy. In theology, it might represent the omnipotence of the Deity as subject to no conditions or limitations, excepting always self-contradiction.

The philosophical meaning of the Absolute pre-supposes the doctrine of Relativity, and, in connexion with that, raises the question—Does the Relative imply a non-relative or Absolute? That Relative implies Co-relative we all admit: some would stop there, while others go on to the higher implication. The difficulties of taking the higher step are soon apparent. It would seem to involve a contradiction in terms. The law of Relativity says 'Everything is relative to some other thing or things'; *ergo* there is something that is Absolute, or not relative: which is more than a *non-sequitur*. In short the law of Relativity must be qualified, or else Absolute must be a species of relative. The way is

plainly stopped here; and our best plan is to sist procedure, till we review the other terms.

The Unknowable.—In the employment of this term, we are not at once landed in contradiction. In opposition to the Known, we have either the Unknown simply, or that exaggerated form of the unknown that we describe as beyond the possibility of being known. The reason of such ultra-possibility may be, that there is no medium of communication that would enable us to know a thing. We have made some wonderful strides in overcoming the obstacle of remoteness, as when we have weighed the earth in a balance, measured the distances of the planets, the sun and the stars, and even guessed their component materials. We may in time carry our means of divination still further; but, to all appearance, we must sooner or later suffer an arrest. We cannot now tell what celestial bodies are inhabited, and probably never shall.

Such is one kind of unknowable. On this, however, no philosophical questions are suspended. The debate between the schools is with reference not so much to what may, or may not, be accessible, as to what is beyond the nature or limits of our faculties to grasp.

Our difficulty begins at this point,—namely, when, from the known or accessible, we infer that there must be something both unknown and unknowable. In other words, we do not fully comprehend the Universe, until we have figured a background of the Unknowable. A wholly detached unknowable would not concern us; we may readily suppose that there are numerous realms or spheres that this applies to. What we intend is, to signify an unknowable that is implicated with our knowable, and through this implication affects our destinies.

The question will then be, What parts of our knowable universe require us to assume a correlative unknowable, the omission of which leaves us somehow crippled and curtailed in our resources? This question has been foreshadowed in the remarks on the Absolute, and we may possibly discover that it is the best, and, indeed, the only, form of the problem underlying all the generalities. Meantime, let us exhaust the list of synonyms.

Things-in-themselves.—This would seem to be an English rendering of what is intended by the Absolute. It also applies to the Object-world in Perception, when that world is figured not as perceived, but as apart from perception. A 'thing in itself' is a thing out of relation to everything else; unconditioned and uncontrolled at all points. More

especially, it is taken as liberated from the thinking subject, which colours everything by its own idiosyncrasy. The use of the phrase, therefore, suggests no new point of view, and we need not dwell upon it further.

Reality.—Reality has various meanings. Its most marked antithesis is ideality,—what is imagined, conceived or thought. Our large powers of mental constructiveness enable us to outstrip the actual phenomena of the world, at numerous points ; while to bring them to the limits of actual experience is to come back to reality. We conceive or imagine a feast ; when we sit down to one, we are in contact with reality.

It might seem especially difficult to give this word the sweep of the other vast generalities, inasmuch as it narrows or contracts our sphere of the thinkable. The only mode of affording it scope in the transcendental world is to suppose, that certain stretches of thought are not mere thought, but are implemented by something actual or real. Hence we need to shape our thinking to what can be realised. How to proceed is not obvious, until we have more light as to what constitutes the full sphere of reality.

Noümenon.—The correlative of Phenomenon, as referring to the supposed something, behind appearances, which is invoked as completing our cognisance of the universe of things.

Infinite.—The use of this term is, for the most part, rhetorical. It is an adjective of the highest degree of intensity, and, when coupled with emotion, puts us to the utmost stretch of imagination that we are capable of. In Science and Philosophy, it simply points to the absence or negation of limit. Hence its application to Space, Time, and their contents. It also indicates how Reality, which is commonly narrower than thought, can yet transcend our utmost powers of thought-constructiveness.

Such is a complete list of the great comprehensive designations for what is transcendent in our supposable Universe. The counter terms in the several antithetic couples have been partly dealt with in the review—Knowledge (Being, Unknowable), Relative (Absolute), Thought (Reality), Phenomenon (Noümenon), Finite (Infinite). The first of these terms—Knowledge—in its more limited acceptation, suspends many issues, as we had had occasion to notice under former heads,—as Epistemology and Perception, but chiefly in the contrasts to Being and the Unknowable.

Thus, by the process of exhaustion, we seem to have reached this conclusion—that, over and beyond the problem

of Perception, there is but one genuine issue traceable, namely, what is signified under the couplings, Relative—Absolute, Knowable—Unknowable, when these are brought within the limits of actual human interest. There may be an Unknowable, so far related to us as to influence our welfare; being traceable purely through that relation, and expressible by the same circumstance, that is, as correlative to the known. Let us find out the cases, and next consider how Empiricism views them.

The chief example, and the one that foreshadows the others, is the theistic handling of Design. This is pre-eminently a case where we have one foot in the Known and the other in the Unknown and Unknowable, except in so far as the correlation with the Known discloses it. The adaptations in the actual world of inanimate and animate beings may be taken as inferring some power equal to the effect. Nevertheless, Design, while suggesting, does not produce the Designer.

On this vast issue, the sharp distinction between the empirical and the transcendental handling can no longer be drawn. How far the correlation of a Design and a Designer can carry us is not a matter for strict determination. It is an argument from the best analogy that we possess—our own workmanship. From the overpowering importance of the conclusion, it involves our strong likings or emotions. To keep these within their proper bounds is the logician's business, if anybody's. One man believes that the argument from contrivance is a sufficient foundation for Theism, as commonly understood; another holds that, while it amounts to something, it goes such a little way towards full and definite knowledge as to be practically fruitless. Empiricists differ here, like other men. Hume took the side of barrenness; Mill inclined to the other side, although in a very qualified form. Probably mankind will never agree on the amount of reliance to be placed on the correlation, as inferring a Creative Mind. Still the question, while not a mere play upon abstract words, is yet a distinct advance upon the great Perception-problem; that problem being unable to yield a theistic conclusion, or the reverse.

To refer to the other mode of approaching the theistic position,—the argument from our moral nature to a Moral Governor of the world,—would be to repeat the same line of remarks. The value of the correlation here is, if possible, still less ascertainable with precision; and the estimates of different individuals are correspondingly various.

Theism is the united force of all the correlations that can,

in such ways, be established between the known and the unknowable. What would be an empiricist's treatment of the subject, as a whole, I do not here consider. It is a question not to be taken up by halves, still less by tenths, which is as large a fraction as is contributed by Philosophy.

ANSWERS TO OBJECTORS.

By objectors I here mean, not the representatives of *Apriorism* as such, but those that call in question the self-consistency of the manner of stating the position of Empiricism, including both opponents and supporters of the creed.

There can be no cogent inference without assuming a general truth.—It is not necessary to spend time on this objection, after what I have said as to the postulate of Uniformity. Experience, by itself, cannot establish a general truth; with this postulate, it can do so.

Immediate cognition is not infallible.—By this is meant, I presume, that, under the very best circumstances for attaining a valid affirmation, that is, when interpreting a present consciousness, we must make pre-suppositions, or else be liable to mistake. This liability I fully admit, and give the only way of correcting it that I know of—repeated observations with the absence of contradiction. All the pre-suppositions in the world, the whole possible compass of assignable intuitions, without this repetition, are the merest moonshine.

Immediate cognitions cannot be distinguished from mediate.—In other words, we may readily confound fact with inference. Perfectly true. We think we see distance. Only the skilled psychologist can analyse the perception into its elements, and state how much is fact and how much inference. Now, the knowledge of mankind must rest upon something that everybody can be aware of. My reply to the objection in general is, that Empiricism is not concerned with the matter. That we cognise distance is a fact; that our perception is mediate, or inferred, is a psychological theory or hypothesis of no interest to human beings generally. It is not necessary to the assurance that we derive through the exercise of our senses: it is at best a matter of learned curiosity. The confidence that we feel does not arise from knowing whether the judgment is mediate or immediate; it arises from sufficiently repeated observation, by which we are secured against illusions.

It is impossible to know other men's immediate experience.—

This difficulty, whatever it amounts to, presses equally on the empiricist and the *apriorist*. Intuition is appealed to in vain on such a point. Each man knows his own experience, and, when language is once formed, we can compare notes with one another, and see what is the extent of our agreement. Only those things wherein we all appear to feel alike are regarded as universal in the highest sense, that is, as truths for all. We are not entitled to presume that what is true to us individually is true to men universally.

On this I may quote from Mr. Shadworth Hodgson (MIND vii. 488):—"Consciousness has no validity for other conscious beings, unless they recognise their truth as descriptions applicable to the procedure and the phenomena of their own consciousness". Compare Grote in the *Theætetus* of Plato, who inculcates the lesson of humility as becoming everyone that lays down truths in the language of universality. "To deliver my own convictions is all that is in my power: and if I spoke with full correctness and amplitude, it would be incumbent on me to avoid pronouncing any opinion to be *true* or *false* simply; I ought to say, it is *true to me*—or *false to me*."

Thought is not possible without a Subject.—In another rendering, "the relation of time between one sensation and another could not exist if there were not a subject". I interpret this as a challenge to the empiricist to build up the Subject from his *a posteriori* elements, as made use of for Space, Time and Cause. This, however, is too much of an undertaking to enter upon at the conclusion of a long paper.

IV.—DISCUSSION.

"ON SOME FACTS OF BINOCULAR VISION."

By J. H. Hyslop.

Mr. Venn's strictures in last No. upon my treatment, in No. 52, of certain facts in binocular vision deserve a brief rejoinder for at least two reasons: (1) that I may remove from the reader any misapprehension as to the bearing of the real or apparent differences between Mr. Venn's experimental results and my own upon the main object of my article; and (2) that I may indicate how much greater the agreement between us is than the discussion implies, and also explain how we may come to obtain different results. The reader would infer from the differences of experimental result that there should be a corresponding difference in our explanations. I wish to show that this is not the case.

The first point of disagreement, which Mr. Venn surmises (p. 255), regards the matter of fusion. He interprets my language to mean that real fusion takes place upon disparate points contrary to the general law of vision. In reply, I plead guilty to not having made perfectly clear my real position regarding it, although in one case I did allude to the phenomenon as only "*apparent* fusion of all images outside the focus of attention" (Mind xiii. 505), and meant the same by the expression "*tendency* to fusion upon disparate points" (p. 508), and "attempt at fusion" (p. 509). But my real view might have been distinctly inferred from the dilemma in which I endeavoured to place Wundt by pointing out the inconsistency between the supposition of fusion upon disparate points, as Wundt maintained, and the supposition of muscular innervation for shifting images to corresponding points. However, I may say that I fully agree with Mr. Venn that fusion does not really take place upon disparate points, and I held this doctrine when I wrote my article. But there was a reason for not taking sides upon it in my discussion. This reason was that the question was entirely irrelevant to the problem at hand, and I wished to avoid the impression that I based the criticism of Wundt's 'psychic synthesis' upon a difference of view as to fusion. Hence I used the term in a loose sense to denote the apparent result to consciousness, whatever the explanation we might prefer to give, and so desired to consider the relation of the phenomenon to muscular innervation.

This statement as to my agreement with Mr. Venn removes such of our apparent differences as pertain to the matter of

fusion. But either a misapprehension of my object, or the failure to keep it constantly in view, has led him into observations which would seem to ordinary readers, unacquainted with the complexities of visual phenomena, a refutation of an implied explanation of them on my part, while as a matter of fact I am quite in accord with Mr. Venn both as regards the facts to which he refers and their theoretical significance. On p. 256, after stating that there is no mistaking the fact of relief in the combination of circles or stereoscopic figures representing different distances from the median vertical, Mr. Venn goes on to say: "But as regards the *distance* of the figure it is otherwise. That it looks nearer than the paper is true, but I cannot feel that it really *looks* as if it were only about seven inches from my eyes. The only way in which I can thoroughly bring this home to me is by holding some slender object, such as a penholder or needle, at that distance before the eye;" and then he adds: "Is not the reason of this to be found in the fact that we do not judge of distance by the amount of convergence only, but that, amongst other resources, the focal distance of each eye is also appealed to?" This would imply that I wished to explain the translocation, of which I spoke, by convergence alone. On the contrary it was not my purpose to explain the phenomenon at all. I only desired to show its conformity with Wundt's theory of innervation and its opposition to Helmholtz's theory of 'unconscious inferences'. Hence I can have no difficulty in admitting the propriety of introducing focal adjustment into the real explanation of the phenomenon, in order to supplement the defects of convergence as indicated by the fact that the locus of the image is not perceived by us without "holding some slender object, such as a penholder or needle, at that distance before the eye". But, admitting that focal adjustment is a factor in the apparent localisation of the image at a point different from the point of convergence, the question with me in my article would have been, whether that influence was *motor and muscular*, or *sensorial* in character. No doubt, the strong emphasis which I had laid upon the correspondence between the localisation of apparently fused images and the kind and degree of adjustment required to produce this result, affected Mr. Venn's judgment of the matter when calling attention to the disparity, in his own case and perhaps that of others, between the degree of binocular adjustment and the untested judgment of distance. But it is to be replied, in the first place, that, when speaking of the correspondence between the localisation of images and the kind and degree of adjustment, I was referring to the *relative* position of the fused circles forming the frustum of a cone, and not to the localisation of the whole figure. It may be true that both convergence and focal adjustment combine to determine the locus of the whole figure, one counteracting the influence of the other; but the length of the frustum, or the distance between

its two bases, depends upon the relative distances of the circles from the median line, and hence upon the degree of adjustment required to effect apparent fusion. To this I appealed as a fact confirming Wundt's theory, although I had the further intention of showing the existence of facts which would make even this coincidence accidental. But I had no intention of affirming, disputing or implying that the fact proved the exclusive influence of convergence in the effect. Then again, any observable disparity between the judgment of apparent distance and the degree of adjustment would be against the supposition that localisation was effected solely by muscular innervation of the recti muscles in binocular adjustment, and so support, to that extent, the criticism I directed against the theory of Wundt, unless the counteracting effect of monocular focal adjustment is assumed to explain the disparity, and thus add the innervation of the ciliary muscles to the total result, as Mr. Venn's inclusion of focal adjustment really does. But this makes binocular localisation associational, inasmuch as its influence can be eliminated or diminished, and so relegates localisation to monocular functions, at least as a partial cause in the result; though it saves muscular innervation only by deputing the service of the ciliary muscles. I am certain that nothing can be better established than the fact that variations of accommodation or focal adjustment are not accompanied by the corresponding alteration of localisation, or the translocation of images, which should be the case if it was the determinative factor; although it may be true that the judgment of distance may be confused by the disturbance to normal vision which the modification of focal adjustment introduces. But this only shows that the position of Mr. Venn serves me in the criticism and modification of Wundt's theory, while it is sufficient reply to Mr. Venn to say that my article did not aim at providing a satisfactory explanation of visual localisation. I could and do really admit the modifying influence of all the factors he mentions, but the further question would have been in my former article, as it is now, whether the influence was motor or sensorial in character.

There is another misapprehension which I wish to remove. Mr. Venn, owing to a failure to get the same result as myself in Fig. 6 of my article (p. 514), or Fig. 2 of his own article (p. 257), has been led aside, or will lead the reader aside, from the sole purpose for which the experiment was employed. This purpose was to indicate a close connexion between variations of attention and motor sensations. But the failure to get the same result as myself may have been due to a similar failure in the experiment represented by Fig. 5 of my article (pp. 511-513). This experiment in its main feature has *not* been mentioned by the critic, while the ability to perform it is the condition of getting the result described in Fig. 6. I refer to the translocation of images by a change of *attention* while convergent adjustment remains

constant. Very few can perform this experiment, except they have been trained to overcome the usually fixed connexion between attention and adjustment. But I had this experiment confirmed by the experience of Prof. Joseph Le Conte and his son, of California University, both of whom obtained the same result as myself (*Science*, vol. xi., No. 266); so that it is not peculiar to myself only. Translocation, however, was not the essential matter of consideration in Fig. 6, but was alluded to because it involved the action of the same functions as in the experiment of Fig. 5, while the purpose to show the close relation between attention and motor action was the emphatic point of the illustration. From this the reader ought not to be diverted. But neither the motor sensations which were to be illustrated by the experiment of Fig. 6, nor the results of Fig. 5 which conditioned the attainment of that in the other, Fig. 6, are mentioned by Mr. Venn. Certainly, he would not get the motor sensations unless he was able to get the translocation of which I spoke, and he would not perceive this translocation of images unless he was able to perform the experiment involving the apparent substitution of heteronymous for homonymous images, because of the influence due to changes of attention without a corresponding change of adjustment. But Mr. Venn has shown in the experiment with Fig. 6 that he at least comes very near to getting the result; for he says: "The thing somehow does not look quite life-like here, and I can only thoroughly convince myself of the relief by the needle or pencil test". The translocation of which I spoke in Fig. 6 was a very peculiar one, arising, so far as I was able to conjecture, from what may be appropriately called rivalry between binocular and monocular functions; in the change from the one to the other a lateral motion of the images was noticeable. But if this rivalry or alteration did not take place in Mr. Venn's case, as it may seldom occur for reasons to be considered presently, neither of the phenomena to which I referred would be visible. Similar observations might be passed upon the failure to confirm my experience in perceiving a difference of magnitude between the monocular images and the binocular fused image, when effecting the combination of two circles; but Mr. Venn is one of many who are not able to confirm my experience here, and it was with this in view that I was careful to limit the experience to myself and to lay no stress upon it, except that I was interested in remarking its exact conformity to the Wundtian theory of innervation. As to my seeming to "hold that *single* vision gives us a conviction of magnitude and distance" (p. 258), I have to reply that this is Mr. Venn's inference from my account of the experience, and not a statement of what the text presented. Here again my thought was directed to no explanation of the phenomenon but to the theory under criticism. I was neither supposing nor opposing the view that the effect was due to 'single vision,' but merely stating

a fact in my experience and its relation to the theory of muscular innervation.

But now I wish to point out a reason why there are so many real or apparent differences of result in experiments of the kind we are considering. This will help the general reader to understand both the complexities of the problem in the visual perception of space, and the fact that I do not dispute the explanations which Mr. Venn has proposed. In other words, I wish to show that the differences are those of experience and not of theory. In order to accomplish this I must refer to some very simple facts in vision. The first one is the following. Very few persons can perform experiments in combination of stereoscopic figures and observe the results with any degree of distinctness. I have had a great many persons try the simplest experiment of merely combining two similar plain figures. But they could not cross the eyes for it. I would then direct them to hold a pencil between the eyes and the figures to be combined, moving it backward and forward until it reached a point in the median line, where they could see the outlines of the figures coincide. But with untrained persons the result at first is almost invariably that they can see nothing but the pencil: in some cases the answer is that the images are too much blurred to decide anything about them distinctly, and sometimes it is said that they cannot hold the impression long enough to perceive what it is in particular. Some even who find no difficulty in effecting simple combination are not able until after repeated efforts to obtain binocular relief in stereoscopic figures. Why is all this the case? The answer to this question will indicate a general law of vision which is not always considered when studying the apparent contradictions in the experience of different observers. There are several facts which make this answer.

First, it is a well-known fact that the intense concentration of attention upon a particular object will often obliterate others in the indirect field of vision, while the relaxation of this attention will immediately restore them to consciousness. But even when no obliteration takes place by reason of concentrated interest, the whole field of vision is represented by an indefinite number of degrees of clearness, diverging and diminishing from the focus of attention which is the clearest and the point of reckoning for all others. But even these degrees of clearness are neither uniformly the same for all persons nor constant for the same individual. They vary indefinitely according to constitutional differences between eyes, and in the same person according to the stable or unstable connexion between attention and adjustment. If without changing the adjustment of the eyes we change the attention to some object in the indirect field, supposing it visible at all, the object in the indirect field becomes more clear and definite to consciousness, and that in the fovea, the proper point of clearest vision, becomes more obscure than

usual. But it is this change of attention without a corresponding change of adjustment that can be effected only in various degrees of perfection by different persons, and by some not at all. Then there are various degrees of power to modify the connexion between focal and binocular or convergent adjustment. This last incident will add to the confusion in indirect vision, and multiplies the complications of the problem. We may expect differences of experience, therefore, in all such experiments as we have described, just in proportion to the variations in the power to overcome the usually automatic connexion between attention and adjustment, convergent or focal, and also in proportion to variations in the power to observe objects in the indirect field of vision and to avoid the suppression of images in the same field. Then, again, besides the influence of attention, its concentration and changes, the tendency to fusion in cases of binocular combination is proportioned to the distance of images from corresponding points, increasing with their approximation to them and decreasing with their removal from them. Still further, whatever tendency might exist at any time towards the fusion of images upon the disparate points, might be completely counteracted by the tension of the existing fusion of images on corresponding points, as in cases where the apparent combination of one set of images cannot be effected without destroying that of another. The slightest difference, therefore, among individuals in regard to the independence of each other of functions normally acting in harmony with external conditions is likely to produce a corresponding difference in experience. Take instances of these. Mr. Venn assigns the limit of normal focalisation at *seven* inches. This is probably correct, but in my own case it is tolerably perfect at *four* inches, and is not surprisingly imperfect at *two* inches. Again, I can maintain convergent adjustment for one distance and focal adjustment for another, and voluntarily modify the latter as I choose, without changing the former; or, after crossing the eyes to effect the combination of stereoscopic figures, I can produce all the parallel movements of the eyes necessary to alter the focus of attention, without breaking the fusion or disturbing perception. The possible consequences of these facts must be evident to anyone who regards the perception of distance as complicated with all the functions enumerated.

But let me take the special case to which Mr. Venn refers (p. 258), *viz.*, his failure to confirm my experience in regard to a difference of magnitude and distance between the central fused image and the exterior monocular images when combining two circles. In the first place it might be said that this difference of distance and magnitude ought to be observed, if, as Mr. Venn remarks of Fig. 1 (p. 256), "it looks nearer than the paper". But there is a difference between the experiments, and Mr. Venn's language may refer to a comparison between the judgment of normal vision and that of artificial combination, so that

an impression of memory is compared with a present perception. Mr. Venn refers to the simultaneous perception of a monocular and a binocular image, one in the indirect and the other in the direct field of vision. Hence, the two cases have a difference. But there is a second point to be observed. It is quite possible that no difference of magnitude would be noticeable unless the power of vision in the indirect field was equal to the occasion, and unless a difference of distance could be perceived, also requiring facility in indirect vision and a difference between the effects of binocular and monocular functions. If the ordinary equilibrium between them remained undisturbed in Mr. Venn's case, notwithstanding the irregularity of artificial convergence, I do not see that a translocation of the binocular image to an apparently nearer point than the monocular images would be necessary, and Mr. Venn has admitted the counteracting influence of focalisation, so that the monocular and binocular effects might have balanced each other. That is, it might be that the connexion between the two functions was so fixed that any tendency to their separation or independent action would be counteracted by their mutual correlation, and in this case apparent translocation would not occur; the apparent distance of all the circles would be the same. But, on the other hand, if they were capable of acting independently; if focal adjustment for the monocular images was for one distance, that of the real figures, and the binocular adjustment for the fused images adapted to a nearer distance;—a difference of localisation might be occasioned. That is, a disturbance of the normal relation between the tension of the recti muscles and the tension of the ciliary muscles, so as to make the influence of the two functions independent of each other, might very well produce the effect to consciousness which would be expressed by the translocation of the fused image, or an apparent difference of distance between the binocular and the monocular images. Hence, what might be true for one person might not be true for the experience of another, and this could be admitted without modifying the theoretical considerations of the problem. Then again, a more important factor may have intervened to produce the difference between our observations. I have alluded to the effects ordinarily produced by a change of attention upon the motor tendencies of the eyes, and the clearness of vision when adjustment is not modified by it. We saw that there might be all degrees of difference between individuals in regard to the connexion between attention and the effects of adjustment on the one hand, and in regard to the comparison of the direct and indirect fields of vision on the other. In this experiment, a comparison of the binocular and the monocular images is necessary, and hence of the direct and indirect fields of vision. This will require a modification or distribution of attention, while adjustment must remain constant. If, therefore, the

change of attention from the concentrated position to the general field of vision should relax the tension of convergent adjustment, as it might well do without producing any visible motor effects, it might simultaneously affect the apparent localisation of the fused image without the person's being aware of the change, because the supposition is that there must be a comparison of the direct and indirect fields of vision, and the comparison in this case is conditioned by a change of attention. Hence the attainment of the result I described will depend upon sustaining the proper relation and proportion between the various functions in the process. If attention should relax the binocular tension without modifying the actual convergent adjustment of the eyes, as I described in Fig. 5 (pp. 511-513), referring to the apparent interchange of homonymous and heteronymous images, the difference between monocular functions in the indirect field and binocular functions in the direct field would not be great enough to produce any apparent difference between the distance from the observer of the central and that of the exterior circles. Hence the possibility of perceiving this difference of distance may be conditioned by the ability to support binocular tension against the relaxing influence of a change of attention to the indirect field of sight. I may add also that, by a strong effort at directing the attention to the indirect field without altering the adjustment, I can relax the binocular tension,—and all the circles appear, as they do to Mr. Venn, in the same plane. But when I make no such effort, but keep the attention strongest upon the fused image, I always observe the difference of distance which I described, no matter whether the figures are thirteen inches or twenty feet away. The greater the distance of the figures from me, the greater does the distance between the central and exterior circles appear. I have tried the experiment at all conceivable distances, and unless I fix the attention more strongly upon the monocular circles without altering the adjustment, the result is invariably the same. But it will be seen from this that under the proper conditions I get both Mr. Venn's results and my own—a fact that shows there is no contradiction, but only a difference between our experiences.

The same argument will apply to the difference of experience in regard to Fig. 6 of my article, or Fig. 2 of Mr. Venn's. As I have already observed, the tendency to fusion at all will depend upon the distance of similar images from corresponding points. In the figure under consideration, the two smaller circles were placed so that this tendency would be very much diminished, or even prevented, by the tension sustaining the fusion of the larger circles, except as the variations of attention might influence it. Ordinarily, as in Figs. 1 and 2 of my article (p. 500), when both sets of the circles lie near corresponding points, so that one tendency to fusion does less to overcome the other, or so that the automatic influence tending to fusion may be equally expended

upon both images, the combination of both may be apparently simultaneous. But at certain distances every tendency of this kind is completely counteracted or suppressed by the stronger tension which sustains the fusion of those figures in the focus of attention, so that neither translocation nor fusion can occur until there are simultaneous attempts at different degrees of adjustment. But the limits at which these will take place may vary in different persons, and they are likely to be much influenced by the character of the connexion between attention and convergent movements. Hence the whole process depends upon such a nice adaptation of complex functions and their harmonious adjustment that any disturbance of their equilibrium must produce an effect corresponding to the predominant factor; and as these tendencies may conflict, the results may conflict, but not in any such way as to modify the character of a general theory. I may add again in regard to this very experiment that, when the relation between attention and the fusion of the larger circles is properly adjusted, I get the same result as Mr. Venn; but if I alter that relation so that the force of attention is applied to the smaller without breaking the fusion of the larger, they *tend* to coalesce and appear translocated. On the other hand, if this relation is so altered that the force of attention is directed to the central point of the larger circles and hence to their fusion, the removal of all tension from the smaller circles makes them appear to recede instantaneously to a point beyond the locus of the larger circles. In this respect the experiment is precisely like that in which the apparent interchange of homonymous and heteronymous images takes place, so that the phenomena are wholly dependent upon the relation between attention and the functions of localisation and adjustment.

This, I think, ought to make clear why differences of experience are possible as between various observers without necessitating any contradiction in theories. The complexity of visual phenomena requires the recognition of some such principle in order to attain to any explanation of them at all, and I think I can quite fully accept all that Mr. Venn has presented both by way of fact and explanation—the last certainly—as elements in a complete theory. The fact is that I have not yet settled upon a theory wholly satisfactory to myself, but was trying to work my way to one through the criticism of Wundt. But I have dwelt thus long upon Mr. Venn's remarks in order to show the extent of my agreement with him, and, by indicating the complexity of the visual process, to prevent the general reader from supposing the differences between us to be greater than they are.

MOTOR OBJECTS AND THE PRESENTATION-CONTINUUM.

By M. E. Lowndes.

Among the various modern psychological accounts of the unity and continuity of consciousness, that given by Dr. James Ward in his *Encyc. Brit.* article "Psychology" is of especial interest. In the conception there introduced of a continuum undergoing gradual differentiation we have one of the most fruitful of biological notions utilised in psychology, and an intelligible account given of many otherwise unexplained facts of mental development.

In describing the first beginnings and gradual development of psychical life, Dr. Ward recognises a duality which cannot, for psychology, be transcended. On the one hand we have the subject attending and feeling, on the other the field of consciousness presented to the attending subject and arousing feeling in it. Any explanation, then, of a state of mind must take both sides into account—the presented content, which can be directly observed, and the subject, whose attention and feeling can be observed in their presented effects and concomitants only. The presented field, now a complex of primary and secondary presentations worked up into percepts and images, is to be conceived as originally an undifferentiated continuum of primary presentations, while latent in this continuum are distinctions admitting of differentiation into organic and other sensations, and "motor-objects or movements".

Now, in spite of the value and interest of this conception, there is, it seems to me, a point of especial difficulty, in the reduction, namely, of sensory and motor presentations to one and the same continuum, which requires a fuller examination than it has yet received. With great clearness Dr. Ward shows how sensations, both of the five senses and organic, still bear signs of continuity, and how this continuity is greater as we descend the scale of psychical life, while there are relations of similarity and analogy between sensations now wholly discontinuous, as, *e.g.*, sights and sounds. And, again, when we come to movements, there is, as Dr. Ward points out, continuity, and evidence that diffusion is greater and restriction less the more elementary the stage of development. But this evidence of continuity among movements alone and among sensations alone does not justify us in referring movements and sensations together to a single presentation-continuum, any more than we should be justified in referring sights and sounds to the same continuum if we had only evidence of continuity *within* these two special senses. That we are so justified is due to the similarities and analogies subsisting between sights and sounds, apparently indicating a fundamental relation, and to the corresponding physiological

development of the several sense-organs out of homogeneous substance. If there is similar evidence as between movements and sensations, it still remains to be brought to the front. At present, while evidence seems to justify us in supposing one originally undifferentiated sensory continuum out of which have been differentiated the several classes of sensations, and also an original "diffused mobility" (to use Dr. Ward's expression) out of which have been differentiated the various sets of continuous movements (as of the several limbs), there seems to be no such evidence for a continuum comprising both sensations and movements. The differences between these are very striking, and their relations unique as among presentations. Nor is this more clearly shown in any treatment than in Dr. Ward's. Following his account of mental development, we find that advance, from the very first, is made through the interaction between sensations and movements—sensations setting up movements through the agency of the attending subject, and movements in their turn controlling and changing sensations. On this view we find such reciprocal action between movements and sensations as an essential element of any, even the most elementary, 'psychosis,' and it surely implies—not, indeed, distinction among sensations or distinction among movements, but—distinction as between sensations and movements, or, we may say, between the sensory continuum and the original "diffused mobility". It is true, indeed, that Dr. Ward represents these facts somewhat differently, making prominent the mutual relations, not of movements and sensations, but of the subject and the field of consciousness. We have thus (1) change in the presentation-continuum set up from without in a manner psychically inexplicable (sensation), (2) a consequent change in the feeling and attention of the subject, and then (3) a subjectively initiated change in the presentation-continuum (movement). But, important as is this reference to a subject, more particularly in guarding against a mechanical interpretation of mental development, it does not clear up, but only diverts the attention from, this particular difficulty of the differences between movements and sensations and of their mutual relations. For it does not seem a sufficient explanation of these differences to say that they are due to the different side from which the field of consciousness is excited. Why should the changes in the same continuum be so radically different when initiated by the subject and when set up independently of it, unless, indeed, the subject reads something into these changes, in which case they cease to be purely presentations? Moreover, if, following Dr. Ward, we resolve all mental activity into "attention," then in the one case as in the other we have the same subjective change, *viz.*, change of attention; and we are forced back on the mere formal change of origin. And again, we still have to take into account the mutual relations of sensations and movements, even though we give more

prominence to their respective relations to the subject. For movements are more than (motor) changes in the field produced by the subject's reaction; they are also the means whereby the subject effects further (sensory) change in the field presented, and in this lies their significance for psychical life. It is through its indirect power over sensory, far more than its direct power over motor, presentations that the subject rises to be more than the mere victim of circumstances, and that psychical development becomes possible. Now, even if we could explain the power of sensations to excite movements by referring to the intervening activity of the subject, how, if movements and sensations are alike parts of the same continuum, are we to explain the control exercised *from the first* (before differentiation has had time to advance) by movement over sensation? It is quite distinct from the influence of a presentation over the contiguous portion of the continuum by means of diffusion, and, I repeat, seems to imply a fundamental distinction between these two (sensory and motor) classes of presentation.

Surely Dr. Ward leaves us on the horns of a dilemma, obliged to suppose either that there is a fundamental and unique interaction between elements of an originally undifferentiated continuum, or that a similar change in an identical activity enables the subject to control, or causes it to be controlled by, the contents of its presented field, without any apparent reason for its having the one rather than the other effect. Nor does his further analysis of motor-objects (into auxilio-motor and motor-objects proper) afford a solution, though it perhaps indicates the direction in which one must be looked for. For he treats both classes as pure presentations, and hence belonging to the presentation-continuum; whereas, if the undeniable interaction between movements and sensations is to be reconciled at once with the notion of a presentation-continuum and with the fundamental interaction between this continuum and the subject to whom it is presented, we must rather hope to find in movement something pertaining to the subject and not to the presented content.

V.—CRITICAL NOTICES.

The Politics of Aristotle. With an Introduction, two Prefatory Essays and Notes Critical and Explanatory, by W. L. Newman, M.A., Fellow of Balliol College, and formerly Reader in Ancient History in the University of Oxford. 2 Vols. Oxford: Clarendon Press, 1887. Pp. xx., 577; lxvii., 418.

The first instalment of Mr. Newman's edition of Aristotle's *Politics* (noted in Mind xiii. 282) has elsewhere obtained fitting recognition as a contribution to classical scholarship; but the Introduction, which fills the entire first volume, deserves to be separately studied as a contribution to the history of Greek philosophy; and it is as such only that, in accordance with the aims of this Review, I propose to consider it. Not every political treatise can lay claim to this philosophical interest; still less can every commentary on such a treatise. Perhaps Mr. Morley's volume on Burke could not claim it; perhaps not even the pamphlets of Burke himself. Such inquiries, however deep they may go, are not connected in the minds of their authors with a larger whole. But with Aristotle the laws of human society entered as an essential element into the orb of his world-embracing system. They were to be fixed by the same general method as all other principles; and, as laws in the practical sense, they opened the widest scope for the realisation of human reason working in harmony with the unconscious though not unintelligent purposes of Nature. Again, according to his view, the study of Politics stands in a particularly intimate relation to the study of Ethics, the results of which it presupposes and completes. And while all Aristotle's works are more or less criticisms on his predecessors in philosophy, especially on the nearest and greatest of them, Plato, this is true above all of the *Politics*, connected as it is by a twofold relation of antagonism and dependence with the *Republic*. Mr. Newman, working in a truly philosophical spirit, has exhibited these various relations with great fulness and felicity of treatment. He tells us, besides, all that is known of Greek political speculation before Aristotle; he studies Aristotle's own theories with reference to his life and times; in the course of a detailed analysis of the *Politics* he brings to bear on each point in succession every ray of light that can be gathered from a most comprehensive and minute knowledge of ancient history and ancient literature, as well as from a wide general reading that extends down to the newspapers of the present day; while the whole is interwoven with a network of delicate and suggestive criticism, conveyed in a style perhaps too diffuse, but of singular ease, lucidity and distinction.

The *Politics* interests Mr. Newman chiefly as an ideal construction ; he studies it as an attempt to ascertain the best form of constitution, whether it be the best absolutely conceivable or the best possible in given circumstances. There can be no doubt that this was Aristotle's own point of view—that his object was to prescribe rather than to describe ; although, fortunately for us, he has gone very deeply into the phenomena of government as a preparation for its better adjustment. Perhaps the value of the work lies more in the diagnosis than in the remedies ; and we may agree with Mr. Newman in regretting that Aristotle's labours in this direction were not pursued still further. But this may well amount to wishing that the law which necessitates the evolution of science from art had in this particular instance suffered an exception to suit our private convenience. We have what is good on the condition that it shall be mixed up with much else that is not so good. At any rate the task of imaginary constitution-making was imposed on Aristotle by the example of Plato. He found serious flaws in the *Republic*, as indeed he well might, and hoped to replace his master's wild scheme by something more useful and more practicable. The whole drift of his philosophy would suggest, as Mr. Newman has well shown, the lines on which the new construction must be planned to succeed. The State is a natural product ; it has come into existence as the result of spontaneous forces working fitfully and tentatively towards a predetermined end. It behoves man to help Nature to the achievement of a purpose that she desires, but cannot fulfil without the intervention of his conscious reason. On the other hand, no more can be developed out of any material than has been implicitly present in it from the beginning ; and none but the choicest elements can be so combined as to take on themselves the most perfect form, or work out the highest end. Thus through the whole scale of its evolution Aristotle's matter is markedly contrasted with the purely passive and plastic recipient on which Plato supposes his ideas to be impressed.[1] Hence the care shown in providing the right physical environment and the right kind of citizens for the ideal State of the *Politics*. Hence also the distinction emphasised at the very outset between the Family and the State. The one has grown out of the other in the order of natural evolution, not, like the Nation, by extension,

[1] May I observe in passing that to charge Aristotle, as Mr. Newman does, with "leaving matter unexplained" (i. 45) seems to betray a certain misapprehension of his fundamental philosophy. Aristotle's First Matter is merely the ultimate possibility of existence, and to explain this would, on his principles, be merely to throw it back on an ulterior possibility, which would be absurd. Even the believer in a creation *ex nihilo* must admit the eternal anterior possibility of such an act, and that would be enough for Aristotle. How the possibility is raised to complete existence he does explain. It is effected by the presence of a completed Actuality.

but by aggregation; and any communistic scheme which would confound the two must be condemned as a retrograde step.

The end of the State, what justifies its existence, is first that it enables its citizens to live, and finally that it enables them to realise the highest life. The theory of a social contract as held by Hobbes and other modern thinkers would have found no favour with Aristotle. Mr. Newman suggests that there are some traces of such an idea in the *Ethics* (i. 17, 42; ii. 394); but this is, in my judgment, a misapprehension. The "political friendships" mentioned in the passage cited mean, if I mistake not, private combinations voluntarily entered into by citizens for the attainment of party-ends; at any rate, they do not mean all-round societies. The idea that society *originated* in a contract seems unknown to any ancient philosopher. Mr. Newman, on the authority of Prof. Wallace, attributes the theory to Epicurus; but Prof. Wallace has, I think, put more into his text than it will bear.[1] The idea, however, of a tacit compact eternally existing between the State and each of its citizens, as attested by the continued residence of the latter within its territory, may be traced back to the fertile intelligence of Plato, if not of Socrates; for it constitutes the basis of the moral argument in the *Crito*. For the rest, there is more historical truth than used to be admitted in the theory of Hobbes. Among the agencies by which great states have been built up we find none more prominent than free contracts for the exchange of protection and obedience; not, indeed, between isolated individuals, but between communities.

Returning to our more immediate subject we have to ascertain with Mr. Newman's help what is, according to Aristotle, the supreme end of the State, an end never yet achieved, and one to achieve which society must be reconstructed from the bottom up. At this point the *Politics* carries on, and in a measure completes, the teaching of the *Ethics*. We there learn that the object of all action is happiness, not understood in a hedonistic sense, but as the complete development of man's higher nature, conditioned by the moderation and, within certain limits, by the satisfaction of his lower impulses. The truly happy individual must enjoy fairly prosperous circumstances; he must be virtuous in the more limited or ethical sense of the word, that is, brave, temperate, just and so forth; but he must also be virtuous in the full Aristotelian sense, that is, his intellectual nature must be developed to the fullest extent of its capacity. Now, the end of life is the same for the community as for the individual; what ethics does for the one, politics does for the other; and it is a nobler art in

[1] What Epicurus says is, that when government produces social security it is a naturally good thing (*Diog. Laert.*, x. 140); meaning no doubt to protest against the notion that governments as such are arbitrary, conventional institutions.

proportion as the whole is greater than the part. To regard wealth or dominion as political ends is, in Aristotle's opinion, a mischievous mistake; industry and war are to be pursued no farther than is necessary for ensuring the tranquillity and ease that are a condition of the highest life. The State must do for culture what Lacedæmon did for military supremacy, and do it far more effectually. Not only must it provide for the safety of the whole community, but it must watch over the material existence of each citizen from a time considerably antecedent to his birth; it must see that he is healthily nurtured and trained to perfect virtue; it must guarantee him the possession of as much property as shall place him above the necessity of earning a livelihood by any industrial employment, that so, after a youth spent in arms, he may devote the labour of his manhood to government and its leisure to philosophy, with the prospect of spending his old age in the dignified retirement of a priestly office.

So far all is clear, and there can be no difference of opinion about Aristotle's intention. But, according to Mr. Newman, the best State does more than enable the whole of its citizens to realise that life of perfect virtue which otherwise can only be attained by a few lucky individuals either scattered singly or united in small groups. He describes it as—

"A whole which reacts on its members and imparts completeness to them (i. 285), . . . a whole in which they can merge themselves as parts, rising thus to a nobler level and type of action than they could singly realise" (p. 286). "Its end is not merely the production of virtue in its citizens, but the production of virtuous action; it not only makes men good and happy, but gives the action of men already good and happy its full natural scope and character. . . . Its end is to afford the virtuous and happy a field for the exercise of their virtue and happiness" (p. 68). "The laws must be such as to develop the goods of the soul—to call forth and give full play to men's highest faculties, moral and intellectual" (p. 556). "Aristotle would probably say that we have not yet fully explored the nature of the σπουδαῖος till we have explored the State of which he is a part. We do not fully understand what the σπουδαῖος is until we have viewed him as part of a whole—as a husband, father, citizen, soldier and ruler" (ii. 385-6). "Virtue not only presupposes a life in relation to others, but life in a State, and, further, a good State, or even the best State" (ii. 395).

All this is very fascinating; it well expresses the sentiments of a well-constituted nature; it is no doubt what Mr. Newman and those like him would feel were they given the freedom of the best State. I have only one fault to find with the passages just cited, which is that they are not Aristotelian. Had the Stagirite meant all this he would have had abundant opportunities for saying it (cp. especially *Pol.*, iv. 3 and 4); but he has not said it, and I have searched the *Politics* in vain for a corroboration of Mr. Newman's interpretation. The one passage in the *Nicomachean Ethics* by which he endeavours to support it does indeed speak of the

happiness of the πόλις as something greater and more glorious than that of the individual; but by coupling the ἔθνος with the πόλις Aristotle clearly shows what he means. The aggregate is to be preferred to the homogeneous parts of which it is made up, but the difference between them remains quantitative, not qualitative. One need only go over the list of moral virtues in the *Nicomachean Ethics* to see that, once acquired, they can be exercised equally well in all civilised societies, in Athens as well as in the ideal aristocracy, in Alexandria as well as in Athens; and it is incredible that Aristotle did not hold them to have been fully exercised by more than one of his own friends. As to that intellectual element which, according to him, constitutes the principal ingredient—perhaps the only positive ingredient—of true happiness, we have his express declaration that it can energise in the absence of all society (*N. E.*, x. 7). For justice at most can Mr. Newman claim with any plausibility that the best State alone affords it full scope, since there alone are functions apportioned with strict regard to merit. But Aristotle nowhere dwells on this; and he would probably have admitted that a moral habit is as independent of any particular application as a geometrical figure is of any particular dimensions.

On any view Aristotle's citizens are collectively a somewhat selfish body. They are to be supported by the labour of a large alien and servile population to whom they give less than the care usually bestowed on horses and cattle. The State "exists not that the wise may shelter the weak, though this they will do [in their own interest], but that the wise may live the life of the wise" p. 487): which is "not a life of self-sacrifice for others like that of Plato's guardians, for they live for themselves, and no other life would be so full for them of happiness and pleasure" (p. 120). The moral welfare of the lower classes is totally neglected; "they are apparently abandoned to the deteriorating influences of necessary work without any counteracting safeguard" (p. 119). In his contempt for those who exercised any form of industry or any art requiring mechanical dexterity, Aristotle did but reflect the general sentiment of educated Greece. Mr. Newman has collected a mass of most interesting evidence, incidentally proving that this depreciation extended to the professors of the fine arts. But one certainly expects a philosopher to rise a little above the average level of vulgar prejudice; and such a moderate elevation was actually attained by Plato—a fact that may be taken together with his clearer perception of the duty of action on the part of the higher classes.[1] So also in his strong Hellenic prejudices Aristotle shows himself, as Mr Newman has reminded us (p. 320), less liberal than Isocrates.

On the slavery-question the retrograde tendency of our philo-

[1] i. 108, 310. In this connexion Mr. Newman might also have referred to *Rep.*, 497 A.

sopher is still more marked, for here we find him in opposition to a whole school of abolitionists. I cannot agree with Mr. Newman that he "deserves to be remembered rather as the author of a suggestion for the reformation of slavery than as the defender of the institution" (p. 151). On examination this seems to mean no more than that "his theory of slavery implies, if followed out to its results, the illegitimacy of the relation of master and slave in a large proportion of the cases in which it existed" (*ib.*). Aristotle does not seem to have drawn any such practical inference from his theory that only barbarians should be enslaved; for the rest, not an original theory, since it had already been enunciated by Plato. Such as it was, this inferential suggestion bore no fruit. The measures tending towards the mitigation and diminution of slavery adopted by Roman legislation were adopted under the influence, not of Peripatetic, but of Stoic ideas; and the Stoics, whose successful efforts in this direction are strangely ignored by Mr. Newman, represented the principle of human right against which Aristotle argues. On the question of African slavery and the slave-trade there cannot be a doubt as to what the respective attitude of the two parties would have been.

The aristocratic prejudices of Aristotle found a sanction, as Mr. Newman ably explains, in the pervading dualism of his whole philosophy. "Not only in the State, but in all natural compounds, the whole is dependent for its existence on things which nevertheless are no part of it, and which stand to it in the relation of means to end. . . . In the human body 'the lower half exists for the sake of the upper half and is neither a part of the End nor its generating source'. . . . In an egg no less than in an animal or a State, two contrasted parts can be discerned—'that which is the principle of growth and that which supplies nutriment'" (pp. 122-3).[1]

Had the learned commentator worked out this vein of thought a little further it would have enabled him to grasp and present with greater clearness the relation in which Aristotle's best State or ideal constitution stands to the second-best constitution or Polity with its attendant train of deviation-forms. He truly observes that "when Aristotle turns to the task of making actual constitutions as tolerable as possible, we do not find that he makes much use of his sketch of a best constitution" (p. 88). In fact, he makes no use of it at all. And why? Because it is designed for

[1] I venture to think that Mr. Newman is less happy when he cites the distinction between the 'passive reason' and the 'creative reason' as an example of this dualism. For the passive reason can be raised to complete energy and temporary identity with the creative reason by the influence of the latter. It therefore answers to the still undeveloped children of the governing class. Sense and imagination supply reason with the materials that it works up into cognition, and therefore offer a better analogy to the industrial and servile classes.

a society that regards moral and mental excellence as the only ultimate end, and such a society does not exist. The mass of mankind, as we know them, look on material existence and material enjoyment as the end; and as wealth seems the one means for securing it, wealth is coveted above all things, and power again as a means to wealth. Now society naturally falls into two fundamental divisions, a rich minority and a poor majority. In such a state of things the best government will be that which, acting in the interests of the whole community, holds the balance even between both classes, and prevents each from despoiling the other. Power should therefore be entrusted to the possessors of moderate means—not, as Mr. Newman explains, the same as our middle-class, but something analogous to it; or, where this does not exist in sufficient force, harmony should be preserved by a judicious division of public functions between the rich and the poor. Where government is exercised in the interest of the few rich, we have the deviation-form or disease of oligarchy; where it is exercised in the interest of the many poor we find the corresponding aberration of democracy; while tyranny or government by a single individual in his own interest is, according to circumstances, a limiting case of oligarchy or democracy, or a combination of their two extremes; just as monarchy, or government by one in the general interest, is a particular case of aristocracy—the king outweighing all the rest of the community in wisdom and virtue. There is no real inconsistency between the classification of the Third Book, where the Polity, or moderate republic, is associated with monarchy and aristocracy as a normal constitution, and the classification of the Sixth Book (new style), where it seems to rank more with the deviation-forms; nor need we suppose with Mr. Newman that Aristotle had found reason to modify his views in the interim between their composition. Assuming a class of good and wise citizens to exist, they should normally hold power; assuming, what is the fact, that they do not exist as a class, then power is normally held by persons of moderate means or divided between rich and poor. The earlier classification is popular, the later one is philosophical, and falls into line with the pervading bi-section of Aristotle's system. According to this the universe as a whole is divided into two worlds, the celestial and the sublunary: the one composed of incorruptible, concentric, ever-revolving crystalline spheres; the other composed of matter perpetually oscillating between the antitheses of dryness and moisture, heat and cold, by whose varied combinations the four elements are formed. These antithetical pairs reappear in the economy of the animal organism, and its stability depends on their appropriate equilibration. Psychology takes us back to the higher world, and ascending from faculty to faculty, as from sphere to sphere, we return to the pure self-conscious reason by which first principles are apprehended. Logic reflects the arrangement of the universe

in its two great subdivisions of Demonstration and Dialectic, the former dealing with absolute truths which differ only as more or less universal, the latter balancing one probable argument against another, and decided by the weight of particular instances. One may even detect an analogous distinction between the first syllogistic figure on the one hand and the second and third on the other, while Barbara reigns over the whole series. In Ethics we have the distinction between moral and intellectual virtue, with the law of moderation for the one, of graduated ascent for the other. Finally, the same principle of systematisation is applied to Politics, but with such an ingenious adaptation to the phenomena of history and government as apparently to have eluded the notice of even so acute a scholar as Mr. Newman. The best State answers to the celestial sphere, to reason, to demonstrated science, to intellectual virtue; the different social classes to the material elements, to the senses, to the passions, to uncertain probabilities; the Polity to the material cosmos, to the healthy animal body, to moral virtue, to sound dialectic; the deviation-forms to elemental disturbances, to disease, to vicious habits, to sophistry. Hence the best State is not, like the Polity, balanced between opposite extremes, because it belongs to that higher sphere to which antithesis is unknown except as regards its material substructure, where the law of moderation again comes into play.

Aristotle's constant references to justice as a principle invoked by all parties in the political conflicts of Greece are very puzzling to a modern reader, especially as in practice nothing seems to have been less regarded than justice by the triumphant faction. The appeal was, in fact, rather superfluous. Since any and every superiority was urged in turn as a moral title to the possession of political supremacy, success might have been pleaded as a sufficient legitimation by the party in power. May we not suspect that the wide diffusion of moral philosophy had by this time produced the collateral effect of substituting a sickening hypocrisy for the naked selfishness professed by the contemporaries of Thucydides? At any rate the appeal was either futile or misleading; and it is refreshing to hear Mr. Newman say that, "expediency interpreted by experience is a better guide in questions of constitutional organisation than justice as Aristotle understands it" (p. 283). In its distribution of power the State should be guided "simply by considerations of the common good" (p. 267).

Aristotle shows himself at his strongest but also at his weakest in the *Politics*. The greatest naturalist, the greatest nomenclator, the greatest systematic thinker of all time, he was singularly deficient in divination, in prescience and in practical imagination —the power, whatever we are to call it, by which great changes are suggested, initiated or promoted, the power so signally exercised in our own time by John Stuart Mill. In this respect

the Stagirite Asclepiad offers an instructive contrast to Plato, whose intelligence, inherited from a race of statesmen, enabled him both to divine and to control the future. Mr. Newman seems, indeed, to claim for his author a large measure of practical genius, but his own Introduction supplies abundant evidence to the contrary effect. It is not pretended that the ideal State could at any time have been introduced into Greece, or have lasted for a year had it been set up. The ruling class would speedily have degenerated into a set of listless loafers, and the whole community would have perished in the military and industrial struggle for existence. Useless as a whole, the scheme embodies no incidental hints capable of entering fruitfully into other combinations; nor is there any evidence that after-ages were affected by the Aristotelian, as they were by the Platonic, ideal. The Stagirite seems to have felt his own constructive incompetence; for he breaks off his sketch of a perfect State almost at the outset, and passes to the more congenial task of reviewing actually existing constitutions. Among the forms offered to his observation he wisely prefers the moderate, middle-class republic, but supplies no single practical suggestion as to how it should be established. Mr. Newman himself points out how the constitution-builder voluntarily deprives himself of the resources that seem to obtrude themselves on him for the purpose, nay, even saws off the plank on which he sits. Although aware that "kingship in its best moments did justice between rich and poor, and saved each of these classes from being wronged by the other" (p. 502), his perverse view about the necessary omnipotence of a true king prevents him from utilising the institution for that purpose once more. "In discouraging the industrial and commercial spirit, Aristotle unconsciously did much to impede the development of the class which he favoured" (p. 511). "We might have expected that constitutional change would sometimes be for the better, and that we should learn . . . how to forward changes for the better. . . . The Seventh Book, however, sets itself to show how all constitutional change is to be avoided" (p. 527). Under the Achæan League federation was found to favour moderation (p. 551); but although federation was approaching in the near future, Aristotle had not a suspicion of its advent or of its function; his own theory failing to suggest the rather obvious inference that as households had united to form cities, so cities might be expected to merge themselves in still larger groups. In addressing himself to the deviation-forms of government, Aristotle can find nothing better than to preach moderation in and out of season. To do what he tells them would, in truth, be to convert themselves into Polities. In other words, as Mr. Newman observes—and he is not the first to observe it—"his advice asks them in effect to cease to be what they are" (p. 491). His plan for obviating constitutional changes is not art but natural history with the tenses and moods

a little altered. After copiously enumerating the mistakes that have proved fatal in the past, he bids statesmen "not do it again". M. Pasteur did not content himself with advising us to keep out of the way of mad dogs.

"Aristotle," as Mr. Newman tells us, "traces the development of society without reference either to religion or to war" (p. 39); and he naturally had no inkling of the transformations that they were still destined to work. Yet he might have learned something from Plato about the one, from Philip and Alexander about the other, of these tremendous forces. Perhaps, after all, he was more influenced by the Macedonian supremacy than Mr. Newman (p. 478) will admit. If we look on him as a member of the peace-party at Athens, some light may be thrown on his attitude. Since the Greek city-states had been cut off from all hope of military supremacy, he, like Isocrates, would convince them that it is an unjust and unworthy ambition. A new ideal had to be sought, and would readily be supplied by the occupations of his own life. From this point of view we may, without disrespect, compare him to the *décadents* of contemporary France; or (the contrast is sufficiently wide) to those great men who, under the shadow of Persian supremacy, turned Judæa into a Levitical state.

Aristotle's *Politics* is open to the objection very justly brought against *Paradise Lost* that it "proves nothing". Nevertheless, like *Paradise Lost*, it is well worth reading; and Mr. Newman deserves our thanks for making it so much easier to read with profit than before.

ALFRED W. BENN.

Natural Inheritance. By FRANCIS GALTON, F.R.S. London: Macmillan & Co., 1889. Pp. x., 259.

This seems to me a very important contribution to a neglected side of the doctrine of Heredity or Descent. It is an attempt to apply accurate quantitative methods to the various successive steps by which one generation of organised beings follows another. Statistics in abundance have long been available as to the characteristics of each such generation separately, with the result, of course, of showing that, so far as the stable conditions of natural life are concerned, these characteristics are preserved unchanged over long periods of time. But no one, so far as I know, had hitherto thought of tracking the intermediate steps, and of raising and answering the question, with rigorous numerical accuracy, *Why* it is that successive generations thus continue to resemble each other?

As sometimes happens, the first step required towards the explanation of the phenomena was to discover and call attention to a new difficulty, or at any rate to one which had never been sufficiently observed. This difficulty is one which requires a

certain familiarity with the principles of Probability for its appreciation. We may take it as a fact of observation, confirmed by abundant statistics, that the *mean* characteristics of each generation,—say that of stature,—are preserved comparatively unaltered. And the researches of Quetelet, continued and amplified by many official and unofficial followers, have established that the Law of Dispersion about this mean retains practically the same invariable type. With these results most persons have remained satisfied, and have regarded them, so far as mere statistics are concerned, as a tolerably full solution of the inquiry.

But here, as Mr. Galton points out, arises a difficulty. The commonly recognised causes are in great part those which tend to *increase* the dispersion about the mean. If, for instance, any one were asked offhand what was the relation between the average stature of fathers and their sons, he would very likely say that they would probably be about the same, that if we took a large number of men of six feet in height, we should find that whilst some of the sons were taller than the parents, and some were shorter, the average height would be about the same. And it might be thought that this was the very meaning and *rationale* of improvement of races by artificial breeding. But this will not do. If we were to admit such an assumption, it can be readily shown that in each successive generation the dispersion about the mean, whilst retaining the same general character unchanged, would continually increase in amount. In other words, out of every given random batch of the same number of persons, say 1000, taken from successive generations, the extreme heights of the tallest and of the shortest men would be continually becoming more extreme. The state of things, in fact, would be one which is familiar in problems about gambling, in which it has been always recognised that the rich men would tend in the long run to grow richer and the poor to grow poorer, whilst the average income, of course, remained unchanged.

We must, therefore, look about for some counteracting influences which shall tend, so to say, to put some compression upon this tendency to expansion. There are two such, apparently, which act in concert; one of them being a result of pure theory as applied to obvious facts of observation, and the other a very peculiar and interesting result of novel statistics, as discovered and established by Mr. Galton's special exertions.

The first of these rests upon the established fact that people have two parents, combined with the statistical experience that, in selecting a mate, stature is a matter of indifference: in other words, that the marriage-selection is, in respect of this characteristic, a 'chance'-selection.[1] If this be so, we have at once to

[1] Of course this fact had to be based upon statistics laboriously collected for this special purpose; for here, as in most of the investigations described in this volume, no statistics directed towards the precise point in view were discoverable. The popular impression upon this matter

some extent what we are seeking, *viz.*, a constraining influence upon the otherwise too great tendency towards dispersion. For the theory of Probability tells us at once that the degree of dispersion (as measured by the 'Probable Error') of a random selection of pairs of things will be less than that of the single things in the ratio of $1 : \sqrt{2}$.

But although this is a *vera causa*, and one which tells in the right direction, we should find, on accurately "taking out the quantities," that it is not sufficient. And here comes in the most original part of the whole inquiry. We must first, however, premise a word of explanation about one or two technical terms which Mr. Galton has had to introduce. The average female stature is, of course, less (in about the ratio of 1 to 1·08) than that of the male, but in all respects it follows the same general law. We must, therefore, for purposes of comparison, multiply all the former figures by 1·08, and we then get what may be called a set of "transmuted statures" which may be freely combined with those of the opposite sex. And when any two of these are combined in an average we get what he calls a "mid-parent". That is, the mid-parent is a sort of fictitious source of progeny, whose stature is the average of that of the father and of the transmuted stature of the mother. For all purposes of a statistical investigation of the kind in question, we may substitute a scheme or arrangement of "mid-parents" for one composed of averages of the two separately.

Now, the curious statistical fact discovered by Mr. Galton is that there is a strict numerical law of "regression" connecting the height of the mid-parent with that of the offspring. The average departure of the latter from the mean is only two-thirds that of the former. This becomes plainer if we take a concrete instance. Suppose a father of six feet, and a mother of five feet four, in a population where the average male stature was five feet eight, and the average female five feet three: the "mid-parent" here is five feet ten inches and a half [$\frac{1}{2}(64 \times 1{\cdot}08 + 72) = 70{\cdot}5$]. This departs from the mean by two inches and a half. The children (males and transmuted females) will, on an average, only depart from the mean by two-thirds of this, *viz.*, by an inch and two-thirds. That is, the average height of the *sons* of such a couple will be about five feet nine inches and two-thirds, and of the *daughters* five feet four and a half inches.

In speaking, as above, of the "regression" from parent to offspring, it must not be supposed that the same regression is not displayed in the opposite direction, *viz.*, from offspring to their parents, and, indeed, from any individual in the direction of

seems incorrect. Charlotte Brontë, for example, if I remember right, weds the diminutive curate Mr. Sweeting to the stately Dora Sykes, in accordance with a 'mysterious law,' which governs such selections by contrast.

lateral connexion to his kinsmen. Perhaps the best way of summing up the facts here is in the form of a paradox, by the juxtaposition of the following three indisputable results of statistical inquiry:—On an average, the sons of tall men, though tall, are shorter than their fathers; the fathers of tall men, though tall, are shorter than their sons; and the height of each successive generation remains the same. In other words, start with any exceptional individual, either up or down the line of descent, or laterally: those in immediate juxtaposition with him will also be found to be exceptional, though less so than he is himself; but after two, or at the very outside three, such steps have been taken, we find the exceptional characteristic will have almost entirely disappeared,[1] and any batch of his relations will not differ from a chance-selection of ordinary mankind in any perceptible degree. This conclusion (as well as the apparent paradox stated above) rests upon the fact that the preponderating mass of mankind are what we call 'average,' *i.e.*, grouped close about their mean. Hence it follows that, in the long run, the really exceptional persons will be found to be the exceptional offspring of ordinary parents, rather than the 'ordinary' offspring of exceptional parents.

It need hardly be pointed out how widely this scientific conception of heredity differs from the popular conception, founded, as the latter is, in some degree upon traditions derived from legal and feudal origin. "The blood of the Howards"—or Buggins—is supposed to flow undiluted from generation to generation, and to display itself by continual emergence of the same characteristics. But those who can bring their minds to recognise that they have mothers as well as fathers, and that each factor contributes about equally, must admit that the general characteristics of their ancestors in the tenth degree (say) will indistinguishably resemble those of the ancestors of anybody else, except, of course, in so far as their ancestors, through intermarriage of cousins, have been kept from doubling in number at every step backward. To this must be added another exception, *viz.*, the tendency to marry into the same rank in society, and thus, in so far as character at all depends upon rank, to curtail the full potentiality of equalisation. But this condition is very apt to be overrated, as anyone would soon find who undertook to work out conscientiously an inverted pedigree which should display the name and position, say, of every one even of his sixteen great-great-grandparents.

[1] Mr. Galton calls attention to a very important distinction here, *viz.*, the distinction between qualities which *blend* and those which do not blend. Numerically speaking, as regards the mere average, it comes to the same thing whether a quality disappears by an imperceptibly faint presence in *all* the descendants (after, say, a single cross) or by being present in a marked degree in an *extremely small percentage* of all the descendants. But the actual concrete results are widely different.

The conclusions thus indicated are very far-reaching in their consequences. Mr. Galton has called attention to a number of them, but we may briefly suggest one or two more. Consider, for instance, the *persistency* of race-characteristics, and the violent, if temporary, shocks which may be borne without introduction of any permanent consequences. Thus the unquestionably small stature of the French nation as compared with the English has been attributed in great part to the devastating effect of the twenty-two years of warfare following on the Revolution. Throughout all that long period there was a continued selection of all that was tall and strong, and rejection of all that was short and weakly. The former was sent out for slaughter and disease; and, if sent home in health, returned after the best years of early manhood were past. The latter remained behind to continue the population. At first sight this seems a most potent disturbing influence, but closer investigation, in the light of the above results, shows that it is liable to be vastly exaggerated. For one thing, the women were unaffected by such selection, and, therefore, as statistics show, the disturbing influence must be exactly halved to begin with. Then, again, long as the war lasted, only one generation was affected, and we now know how potent the influence of the whole ancestry at one remove is shown to be. In fact, it seems certain that if—what has never been approximated to in any time or place—every tall man without exception were selected from a single generation and exterminated on battle-fields, the effect on the next generation would be but very slight indeed, if perceptible at all. For the tall men of one generation are, in preponderating numbers, the offspring here and there of some of the many who were themselves but mediocre. Again, another suggestion: does it not seem to follow that we must not be sanguine, through the effects of processes of heredity, of any hope of serious improvement in the human race? We are sometimes apt to notice what has been effected amongst animals, and to take this as an analogy for what may be effected amongst ourselves. But how has it been effected in the former case? By persistent, unrelenting destruction, or suspension from natural functions, continued through generation after generation, of every individual who fell below the mark. So far as heredity is concerned,—we are not, of course, attending to the general ameliorating influences of sanitary precautions, education, and so forth,—nothing short of this continuity of practice would avail to keep a succession of generations above the position of what may be called normal equilibrium.

A word must be added as regards the evidence adduced by Mr. Galton in support of his results. His conclusions are, of course, meant to be extended by analogy to all characteristics, mental and moral as well as physical, though at present accurate quantitative data are only available in respect of a few of the latter. As he says, his statistics had to be entirely collected by

himself, since nothing available had ever been attempted apparently by any previous investigator. He began by what may seem a very remote analogy, *viz.*, the results, as regards size and weight, of breeding selectively families of *sweet peas*. But the bulk of his human data were the result of offering, some years ago, a series of money prizes for the best "Record of Family Faculties". As these excited considerable interest at the time, we need not here pause to give any further account of them. It need only be said that their scientific aim was to collect data for connecting the peculiarities of the individual, in respect of stature, strength, eye-colour, artistic or literary taste, liability to special disease, and so forth, with the corresponding peculiarities of all his ancestors within the third remove, and of all his collaterals within the same limits. The net results, though not so extensive as could have been wished, seem to have been very carefully and conscientiously compiled, and furnish the basis for a large amount of most interesting and trustworthy inference.

Mr. Galton's well-known ingenuity and fertility of resource in respect of mechanical and diagrammatical illustration deserves passing notice. There is, for instance, a wheel-and-axle machine described, for calculating the probable height of a son and daughter from the observed height of the parents. A couple of weights, hanging by cords from two of the connected wheels, can be set by scale in accordance with the latter data, and a third weight, on its own scale, automatically indicates the desired number in feet and inches for either sex. Another diagram to which attention may be particularly directed, as it is one which really aids in the work of proof, is intended to illustrate the process of "regression," and the successive steps by which we should pass from any selected group,—selected, that is, in respect of any particular characteristic which exists in a marked degree,—to their mediocre ancestors or collaterals at a few degrees' remove. It will be intelligible enough to one familiar with Mr. Galton's "ogive," which he commonly substitutes for the more usual 'exponential' curve employed to represent the dispersion of a group of magnitudes about their mean. Conceive a number of these ogives cut out on stiff cardboard, and place one upon another (all cut the same size), until we have a block of them on a square base, with an ogive surface at the top. Take a precisely similar block and set it near the other, but turn it on its base through an angle of ninety degrees relatively to the former. Then conceive the former cut into a number of thin slips parallel to the direction of the second set of ogives; in other words, at right angles to the actual cards of which it is composed. The latter set of sections will be composed of rectangular slips, whose altitude varies according to the familiar law of deviation as expressed on this scheme. The two blocks will represent diagrammatically the composition and arrangement, in respect of any assigned characteristic, of two generations of the population. When they stood in the same

angular direction they served to display the statistical uniformity of those generations. When standing at right angles they serve to display the process of regression by which a selected group, of any particular standard, will be modified in their posterity or ancestry into a perfectly normal or 'chance' selection. For the same block, according as we look at it, is composed either of rectangular, or of ogival slips: the former represent the selected group of one definite magnitude in respect of their peculiarities; the latter represent the chance-group which will resemble any other chance-group.

As was remarked above, it seemed better to dwell somewhat minutely on one line of inquiry developed in this volume, rather than to attempt to compress into a short space an abstract of the whole. I have therefore dwelt prominently on the characteristic of stature, which lends itself to accurate investigation and numerical verification. But this is only one of the characteristics to which the same argument may, by analogy, be extended, and, indeed, only one of those which Mr. Galton has taken into consideration. For instance, a whole chapter is devoted to the discussion of eye-colour, the extent to which this can be proved to be hereditary, and the process by which the statistical persistence of the distribution of such colours is secured. The investigation here is in some respects different from that which deals with stature, since we are here concerned with a quality which does not "blend". "Parents of different Statures usually transmit a blended heritage to their children, but parents of different Eye-colours usually transmit an alternative heritage" (p. 139). This requires us to appeal to *percentages* of eye-colour as contrasted with measurements of individual stature. Two other chapters are devoted to similar investigations in respect of Artistic Faculty and of Diseases; the statistics of these being, like the preceding, obtained from the returns sent in for competition and described as "Records of Family Faculties". It need not be said that here, as with all Mr. Galton's work, we find a model of the way in which statistics should be employed. These have been acquired, tested and put to use with the most scrupulous care and skill, and the trust yielded to them is just as great as it should be, and no greater.

JOHN VENN.

On Truth: A Systematic Inquiry. By ST. GEORGE MIVART, Ph. D., M.D., F.R.S. Kegan Paul, Trench & Co., London, 1889. Pp. x., 580.

It is difficult for a person not well acquainted with the history or the present condition of Catholic philosophy to appreciate the real significance of a book like Mr. Mivart's *On Truth*. Yet Mr. Mivart writes for the general English public, and he would probably prefer to be regarded from the outside.

Though it contains some passages of philosophical interest, not even the most sympathetic critic would declare that the value of the book bears any reasonable proportion to its bulk. This undue length is partly owing to the prolixity of a style superfluous in explanation, dark with excess of light; but mostly to the extreme discursiveness of the inquiry. Professing to be an inquiry into ultimate truths, and dealing with metaphysic and the questions that arise on the borderland between metaphysic and natural science, the book contains also a collection of useful knowledge from a variety of sciences. There seems to be as little reason for introducing some of these chapters as for the omission of others. Chemical and physical laws are hardly described, but there are chapters on the structure of the body, on the vegetable and animal world,—even on the structure of the earth. There would be some reason for a treatment of physiology if it contained any real discussion of the important questions as to the relation of mental and nervous action. But the knowledge imparted on all these subjects is of the most elementary character. Those to whom it will be sufficient will hardly appreciate the philosophy; those who can understand the philosophy will find the scientific information unnecessary. Mr. Mivart seems, indeed, to have forgotten the wide diffusion of elementary knowledge among the public. As the Director in *Faust* says:

> "Zwar sind sie an das Beste nicht gewöhnt,
> Allein sie haben schrecklich viel gelesen".

The quotation is, however, not quite apposite. For, in the first place, the public has at its disposal, and reads eagerly, a number of admirable text-books—like Prof. Huxley's on Physiology. And in the next place, the information that Mr. Mivart himself supplies is certainly not of a very satisfying kind. The passage on the geological structure of the earth is little more than a table of strata, with their fossils, written out in sentences in place of the tabular form.

A thinker who attempts the problems presented to the general theory of evolution by the higher nature of man and the products of reason may follow either of two courses. He may scrutinise the facts to see whether he can or cannot trace a steady progression, unbroken at any point, which leads from lower to higher orders of being. Or he may face about and invoke some unexplained power to intervene at some definite point. Mr. Mivart belongs to the second class of thinkers. With him Reason, or something equivalent, cuts all knots. One good result follows from this procedure. It induces him to draw careful distinctions between the lower forms of mental action in man and the higher; or, what is the same thing, between the mental states of animals and the distinctively human states of mind. On the other hand, it baffles inquiry and shuts off discussion at all the

vital and interesting points. Reason so based may seem to be built on a rock, but it is really built on a sand-heap hardened with time.

Let us trace Mr. Mivart's philosophy of Reason through its principal stages. The first step is preliminary. There are certain ultimate truths—the criterion of which is their self-evidence. These are, our own existence, the veracity of memory, and the truths, such as the laws of thought, which lie at the basis of reasoning. These truths are attested by the time-honoured method of showing that if you doubt them you become absolutely sceptical, and absolute doubt must doubt itself and be suicidal. Many philosophies have been based upon absolute scepticism, and it is likely that an objection of this kind—for which Mr. Mivart is not the only person responsible—would have occurred to their authors. But it misses the mark. Scepticism is with these philosophers the instrument of truth. And if this is a true belief, then it is absurd to expect a man to turn the instrument of his thinking against itself. As well declare that if we determine to maintain the principle of tolerance, we are self-contradictory if we put down intolerant persons. The question that must be really put to these men is this: Is scepticism the right instrument of thought? Meanwhile, the negative argument of their opponents has no weight. The questions *they* have to answer are these:—Granted that doubt is not the true instrument of thought, on what ground do the ultimate truths depend? Are they different, and do they rest on a different basis from any of the thousand truths which no one would dream of calling ultimate? Is their truth due to any impossibility of doubting them which does not attach to other truths, or merely due to the fact that they are constituent elements in a universe of things?

The real business of Mr. Mivart's work begins in Sect. ii., on Idealism. Mr. Mivart is a realist, and holds the real existence of things as against their mere ideal existence in minds. He first develops his position negatively against idealism, which he holds to be inconsistent with science in general and with evolution in particular. With science,—for science investigates the causes of phenomena, dealing not with our perceptions, but the causes of them; with evolution,—for there must have been a time when minds were not. In truth, urges Mr. Mivart, sensations are not the objects of our knowledge at all, but the means of getting knowledge. In perception there is an intellectual element which assures us of the real existence of objects. Here is, indeed, a short and easy method with the idealists to match Berkeley's with the materialists. How will Mr. Mivart answer those who explain how this element of reference to an object is itself produced? If they succeed in doing so, then we may call this element reason; but will it not follow that the boasted reason is explicable by reference to lower phenomena? Nor will this impair the superior position and importance of reason, any more

than man ceases to be the paragon of animals if he is proved cousin to the ape.

Mr. Mivart, in his general polemic againt idealism, fails to appreciate what idealism means. The question of causes has been sufficiently met by Berkeley: so has the difficulty that things exist when my mind does not perceive them. And there is a further misunderstanding which raises a point too important to dismiss without notice. Idealism, it is said, holds that the object of our knowledge is not things, but our own impressions, and in answer to this Mr. Mivart insists that impressions are our objects only when we reflect upon them. As it never rains but it pours, here also is Mr. Case, in *Physical Realism*, advancing (if I apprehend him rightly) the same proposition, and controverting it by showing that the object is not our sensations, but our nerves in a certain state. But has any idealist ever held that the objects of our knowledge are our sensations (except when we examine them)? When he says that all that we know is sensations, he means only that our knowledge is composed of sensations: that these are the data of our knowledge, not the object, in the sense in which we speak of seeing a black object. He would attach to the word object the same meaning as other theorists, only he would account for it differently. I hold no brief for idealism; but a person who brings charges against it must get up the case. *Non tali auxilio.*

Section iii. treats of Man. The two most important chapters are those which treat of the lower and higher mental powers. The former chapter may be taken along with the chapter on the Animal Faculties in Section iv. Here Mr. Mivart does good service in showing how many operations of our minds are independent of reason in the strict sense of true conscious mental action. The lower life simulates the higher, but is distinct from it. There is memory as distinct from recollection, unconscious as distinct from conscious inference, the formation of generic images as distinct from abstraction. A happy term has been introduced by Mr. Mivart to describe the sensuous state which corresponds to true self-consciousness: he calls it "consentience". Animal faculties are sensuous faculties. Mr. Mivart does well to insist on keeping animals in their proper place. Nowhere has there been so much exaggeration as in the psychology of animal life. "A book requires to be written," says Mr. Mivart, "on the stupidity of animals." If all that their friends say of the animals were true, every dog that lives in a kennel should have his vote like any other householder.

What is noted here, in Mr. Mivart's treatment, is the general truth that operations which have all the appearance of very high development may be explained by care without any such supposition. But after this has been said, the satisfaction of the learner is rudely shaken. For what is the inference drawn from this useful cataloguing of higher reasonable faculties and

their analogous lower faculties? That the higher are parted from the lower by an inexplicable element which admits of no continuous passage from one to the other. I remember a lecturer on zoology who, whenever he pointed out in the lower forms homologies with the higher, made the invariable comment, "This shows how mistaken my friend Mr. Darwin was". Many of his hearers went away confirmed believers in Darwin. Mr. Mivart's inference from his evidence produces a similar effect upon me. Strange, if this reason is a thing *sui generis*, that it should operate exactly like sense and the lower life! And if the Reason which created the world has made use of continuous transition almost everywhere, and, even where the transition is absolutely broken off, has made the new principle to behave exactly as if it were developed out of something lower—What clumsiness! What poverty of resource! What trickery! Rather believe, with Plato, that the reasonings of some of us are mistaken than that God has condescended to such illusions.

We pass again to metaphysic with Sect. v. Mr. Mivart's view of the nature of things is simple enough. Everything, whether a mechanical substance or a living organism, is a unity of two "separately imperceptible and unimaginable entities—(1) extended matter, (2) an immaterial principle of energy". And Mr. Mivart has a classification of five categories of immaterial principles, which the reader will find on p. 435; the highest immaterial principle being the rational soul, the lowest the motion of matter. These immaterial principles are accommodating things. In generation we have a certain portion of the parent substance starting with a principle of its own. Graft the tail of a young rat under the skin of a grown rat: the temporary principle of the tail is lost, and the tail becomes animated by the principle of the fully-grown rat. When an animal is injured, the immaterial principle shrinks. Mr. Mivart thinks that these things bear out his theory. But are the explanations anything more than bare statements in terms of his theory of what happens? and are they not almost ludicrous in their failure? That theory has indeed a certain value. It asserts that wherever we have a structure of any kind, there also, even in the inorganic world, we have function also. We think at the present day in biological forms, and it is something to see that the relation of structure and function exists throughout the world. What this relation is, is perhaps the most difficult and important question of philosophy at the present day. But what explanation is it to call the one body and the other an immaterial principle? To call the soul an immaterial principle is intelligible. But to argue an immaterial principle in inorganic bodies, or even in organisms, is to extend over the whole range of things an obscure idea which is itself in pressing need of explanation. Rather than this, it would be better to maintain the downright fiction of materialism. If the stone contains an immaterial principle, we want, in the first

place, to know what makes this principle so different from our soul, and then, after this, we want to know whether the difference may not be bridged over.

There are some other passages in Mr. Mivart's book which might serve as a text for philosophic questioning. With his attacks on current scientific theories I must leave some person more qualified than myself to deal. A long chapter discusses evolution, and rejects the Darwinian principle. Mr. Mivart's view—well known in the scientific world—is that development is due to heredity and the action of the environment "taking place teleologically along definite lines, according to preordained law". Natural selection operates only in weeding out unsuitable variations within these limits. There is no discussion of the burning question of heredity, as it has now for some years been set before the scientific world by Weismann and others. The chapter on a First Cause contains many of the usual arguments for design, and the objections against the teleological idea are answered in the usual way. To discuss these would extend this notice beyond reasonable limits. Those who are seeking for clear ideas as to the applicability of the notion of design will not find them in this chapter. Nor will they find any appreciation of the possibility that the strongest evidences for teleology—the apparent ministration of one kind of organism to the needs of another—may be only one consequence of the general principle of selection.

I trust that in whatever I have said I shall not be thought wanting in respect to Mr. Mivart. My criticisms have been suggested only by the desire to find clear ideas, and the failure to find them in this work. The solutions which Mr. Mivart has given of the real difficulties seem to me to be all of them too easy, and to introduce the very problem itself under the guise of some heaven-sent agent. And I cannot withstand the conviction that, apart from certain special things above emphasised, the book contains little which, from a philosophical point of view, can be regarded as helpful; while the purely scientific portion of the book seems to be much too elementary and summary to be of real use.

S. ALEXANDER.

Logic. By R. F. CLARKE, S.J. ("Manuals of Catholic Philosophy.") London: Longmans, Green & Co., 1889. Pp. xix., 497. [With Note on *The First Principles of Knowledge* by JOHN RICKABY, S.J. Same Series and Publishers, 1888. Pp. xii., 412.]

Deductive Logic. By ST. GEORGE STOCK, M.A., Pembroke College, Oxford. London: Longmans, Green & Co., 1888. Pp. xi., 356.

Each of the above text-books on Logic is written with a clearly defined and consistently conceived object. The former "leads

back the English student into the safe paths of the ancient wisdom," rehabilitates Scholasticism, and finds in Aristotle and St. Thomas Aquinas "the solution of every difficulty and the treatment—at least, the incidental treatment—of almost every question that Logic can propose". The latter is intended to be "representative of the present state of the Logic of the Oxford Schools," and a guide in logic for the Honour School of Moderations. The former is permeated with Scholastic Realism; the latter, without professing any philosophical system, is predominantly Nominalistic in treatment.

The Catholic writer begins by expounding the fundamental principles and primary laws of Logic. These—*i.e.*, the principles of Contradiction, Identity, Causation and Excluded Middle—are shown to involve an *a priori* reference to objective being, and forcible attacks are made upon any attempts to ascribe to them either a tautological, conceptual or empirical import. The weak points of Conceptualism and of Nominalism are then vigorously and skilfully attacked, and the fundamental principles of Scholastic Realism are summarised on p. 161. These are that the *Universal nature* (1) exists in the Individual object independently of any operation of the human intellect; but (2) this is not the *same* in all the individuals, but *alike* in all with a most perfect likeness; yet (3) it is represented in the human intellect as one and the same in all; for (4) it exists there *as a universal* by virtue of the power of the human intellect to recognise the common nature in the various members of a class. So far the modern philosopher might accept the language of the Schoolmen, without much fear that he was going backwards, though without much hope that he was going forwards. But the important question at issue is by what means and with what limitations can this Universal nature become an object of *knowledge?* We are told (pp. 184, 185): "We have the power of discerning the *essences* of things, of piercing through the characteristics of the individual to the essential nature underlying it. When we have any object presented to us we are enabled by the reason that God has given us to see what qualities belong to the *individual* . . . and what belong to the *species* to which he appertains."

It is, thus, in the doctrine of the Predicables and of Definition that we find the real teaching of Scholasticism. The *essence* of an Individual (we are, of course, repeatedly told) is "that which makes it to be what it is". Any subdivision of an 'infima species,' *e.g.*, of man, requires the introduction of qualities not essential to the individual man. The argument derives most of its force from the fact that the individual is constantly referred to by his class-name *man*. Thus (p. 184): "Every one of them [the accidents] may be reversed without the *man*, so to speak, losing his identity". "If he is a negro, we can think of him as remaining in all respects the same, though his skin should

become white." With this compare the question, discussed on p. 259, whether the judgment 'All negroes are black' is analytical or synthetical. "It may be said that blackness is of the essence of the negro race." Now, "The real test . . . is whether in the notion of the subject as understood by educated and well-informed men, there is included the predicate. If so, the proposition is an *a priori* or analytical one; if not, it is *a posteriori*. In the instance just given, there is no question that the generally entertained idea of *negro* includes blackness. Albinoes are a *lusus naturæ*." The possibility of thus pronouncing, that 'white-skinned descendants of black men' are a mere sport of nature, from an analysis of the ideas in the mind of an educated man, is easily explicable when we remember that definition is "the breaking up of a concept into the simpler concepts that are its constituent parts," and, *at the same time*, "a setting forth of the essence of the thing defined" (p. 197). But this leads to a dilemma. Nothing must be included in the 'essence' of an individual, except what belongs to his 'species'. Hence, *either* any term of less extent than the 'infima species' is indefinable, *or* its definition must be the same as that of the 'infima species' which contains it, *or* the term 'essence' must be understood in a purely nominalistic sense.

Father Clarke deals with all the ordinary problems of formal logic in a clear and interesting style. His treatment of Induction is characteristic. There is a tone of regret that the advance of physical science should have necessitated the introducing of induction into logic, with a candid but uncritical acceptance of Mill as the best authority on the subject. He excuses Aristotle and St. Thomas for not having formulated inductive rules, on the plea (p. 399) that "any elaborate setting forth of the methods would then have been superfluous and unnecessary and premature . . . " In an Appendix, the attitude of Scholasticism to Science is further discussed. The book is ably written.[1]

[1] Father Clarke's *Logic* is supplemented (in time a little preceded) by Father Rickaby's *First Principles of Knowledge*, in which a basis for Realism is found in the doctrine of "Certitude" (cp. MIND No. 54, p. 290). The chief propositions maintained are as follows: There are three species of Certitude—metaphysical, physical and moral. The "philosopher's mental outfit" contains three primary articles—assurance of his own existence, trust in his own faculties, and reliance on the principles of Contradiction and Sufficient Reason. The ultimate criterion of certitude is *evidence, i.e.* (p. 221), "the shining forth of the ontological truth of the thing". Positive error is impossible to the intellect, and is due to a bad will. In the second part of the treatise all these principles are applied to establish the trustworthiness of the senses, of consciousness, of memory, of human and divine testimony. The line of proof offered in support of these propositions usually takes one of three forms—the direct, the oblique and the circular. The *direct* argument is the usual appeal to unreflecting common sense. The *oblique* argument consists in exposing (often with considerable acuteness)

Turning to Mr. Stock's manual, we find little that would be unfamiliar to the modern reader; but many points of obscurity and ambiguity are cleared up in the course of the work. Thus, in the divisions of Terms and Propositions, the principle of dichotomy is very thoroughly applied, so that any case has its clearly assigned position in each of the divisions. By distinguishing between *original* and *acquired* intension, the author helps the student to avoid some of the ambiguities and entanglements that controversies on proper names have raised. But in the treatment of the law of inverse variation of extension and intension, this distinction is dropped, and the law is, therefore, either ambiguous or false. The treatment of Predicables, of Definition, and of Division is, to those who are satisfied with the nominalistic view on these points, a model of clearness, precision and exhaustiveness. The author's innovations are almost invariably well founded and well supported; but one exception must be made. In §§ 471, 472, 473, the author propounds the conclusion that the 'some' of the particular proposition will not satisfy the traditional view of opposition, if it means 'some, it may be all'. His argument is as follows:

"If I and O were taken as indefinite propositions meaning 'some, if not all,' the truth of I would not exclude the possibility of the truth of A, and similarly the truth of O would not exclude the possibility of the truth of E. Now, A and E may both be false. Therefore, I and O, being possibly equivalent to them, may both be false also."

That this blunder should have been perpetrated by a writer usually so remarkably clear-headed is extraordinary.

One other criticism may be made. Though his whole treatment is otherwise consistently nominalistic, yet Mr. Stock adopts (on p. 238) a view borrowed from conceptualism, which (in the reviewer's opinion) involves a most serious error. From the perfectly correct premiss that formal logic is only competent to pronounce upon the truth or falsity of propositions that are *analytical*, the conceptualists draw the conclusion that in logic *all* propositions must be *interpreted as analytical*. But on this view formal logic loses all its meaning. Thus formal logic pronounces upon the legitimacy or illegitimacy of inferring from 'all A is B' that 'some B is A'. It does not guarantee the truth of 'all A is B'; but, if it pronounces the above inference

the inconsistencies displayed by adversaries, especially when compared with one another. The *circular* argument is candidly adopted in the form of references to the results of Theology and "General Metaphysics," although the author is very severe on Descartes for his circular proof of the existence of God. The best piece of reasoning that the volume contains is founded on the admission by idealists of the existence of consciousnesses other than their own. But the author seems throughout the work to confound Scepticism and Subjective Idealism.

legitimate, it certainly guarantees the truth *as a matter of fact* of the conclusion for him who accepts *as a matter of fact* the truth of the premiss. Yet Mr. Stock (p. 239) writes: "From 'all centaurs are animals,' it follows necessarily that 'some animals are centaurs'; but as a matter of fact this is not true at all". If from a matter of fact something may be inferred which is *not* a matter of fact, then it is clear the inference is *not logical.* If, on the other hand, the premiss and conclusion are both to be regarded as *analytically* true (though as a matter of fact false), then they each stand on their own footing, and logic is competent to pronounce the analytic truth of the conclusion independently of the premiss, so that there is no *inference* in the case at all. It should be explained that Mr. Stock—like all others who adopt the conceptualist language in this respect—works out a system of formal logic with perfect consistency by simply disregarding the above dictum.

W. E. JOHNSON.

The Elements of Law Natural and Politic. By THOMAS HOBBES of Malmesbury. Edited with a Preface and Critical Notes by FERDINAND TŒNNIES, Ph.D. To which are subjoined Selected Extracts from Unprinted MSS. of THOMAS HOBBES. London: Simpkin, Marshall & Co., 1889. Pp. xvi., 226.

Behemoth or the Long Parliament. By THOMAS HOBBES of Malmesbury. Edited for the first time from the Original MS. by FERDINAND TŒNNIES, Ph.D. London: Simpkin, Marshall & Co., 1889. Pp. xi., 204.

The service here rendered by a foreign scholar to the reputation of a great English thinker deserves warm acknowledgment. These carefully edited reprints of famous works, never before edited with any (or at least sufficient) care, would have seen the light four years ago (see MIND ix. 618, xii. 481) if the publisher who originally undertook to bring them forth had not unaccountably left his engagement ever since then unfulfilled. The sheets that have lain all that time printed-off are now at last made accessible to readers by the public spirit of Dr. Tönnies himself, who, rather than longer delay an act of justice to Hobbes, incurs the whole charge of issuing the two volumes. It cannot be improper to express the hope that students whether of English philosophy or of English literature will help him to bear the charge.

The first of the two volumes is philosophically the more important, though the other, with greater general interest, is not without philosophical significance also. Under the single title of *The Elements of Law Natural and Politic*, the two treatises so well known in separation as *Human Nature* and *De Corpore Politico* are now presented as interlocked parts of one continuous work. I have elsewhere, on more than one occasion, shown that the two

little books, published separately in 1650 not from Hobbes's own hand (he being still in his Parisian exile, and at the time busily engaged on the completion of *Leviathan*, to appear in the following year), were written by the spring of 1640, some time before the Civil War, as one piece. It seems impossible now to determine exactly how far, if at all, Hobbes was concerned in the publication as it actually took place. Certain it is, from various MSS. of the original work still extant, that the little books as published neither were ever meant by Hobbes himself to be read apart, nor in point of fact represented in their separation the two parts into which, as suggested in the true title, the original work was from the first disposed; the first part as written covering, with *Human Nature* as published, no less than six chapters (set out as a first of two parts) of the published *De Corpore Politico*. The very valuable MS. copy at Hardwick Hall, containing with many scattered jottings the whole long dedication written in Hobbes's hand, first disclosed to me the unity of the work; but the fact, not before suspected, ought to have been discovered, without reference to MSS., by the indications of original unity left here and there in the dislocated constituents hitherto printed. Any way, the fact became evident, and its decisive import for a true understanding of the development of Hobbes's thought will, it is hoped, nevermore be overlooked by historians of philosophy. But now for the service which Dr. Tönnies, as no other, has seen to be wanting to the fair fame of the philosopher. Not only did he discover for himself, upon a number of MSS., the true relation of *Human Nature* and *De Corpore Politico* before this had been made known, but, resenting the manifest defects or errors of the published text, he determined to supply a correct one by collation (never before attempted) of all the accessible MSS. copies. These, of which there are as many as six (the large number being due to the fact that the work was freely circulated in MS. form from 1640), differ a good deal amongst themselves; the two of chief value having discrepant insertions or erasures in Hobbes's hand that show anxious and careful revision on his part. The problem was therefore, out of the varying MSS., to produce a text that should be not only free of misprints but also as complete as possible. Since neither of the best MSS., to one or other of which the rest approximate, can be certainly taken as representing Hobbes's definitive selection of phrase for the expression of his thought, it clearly was right to give, as Dr. Tönnies has given, the fullest possible text, with footnote indications of the changes which such a master of phrasing fell, at one time or other, upon making. But after all, in the case of a work which even in its hitherto unsatisfactory form has been regarded as a masterpiece of expression, the more important thing was to get rid, once and finally, of the blots disfiguring all the previous editions. This has now been done by Dr. Tönnies's collation of MSS., in the way that if most laborious is also most effective;

and the fact that a much easier comparison of the various printed editions might equally have served to remove all the more serious blots enhances rather than lessens the merit of his appeal straight to the original sources.

One example (on which I have already touched elsewhere) from *Human Nature* will suffice to show what a work was left to be done for Hobbes by any conscientious editor. It should first be mentioned that nearly all the more important corrections made by Dr. Tönnies affect that part (more strictly, those chapters) of the *Elements* that first got into print as *Human Nature:* whatever the cause, it has fared better all along with the *De Corpore Politico*. Now, if Molesworth's edition, which was meant to become the standard one and which is practically the only edition accessible, is consulted at one of the most important points of Hobbes's psychological doctrine (*English Works*, iv. 68), this is what we read:—

> "*Voluntary* actions and omissions are such as have beginning in the *will;* all others are *involuntary*, or *mixed voluntary; involuntary* such as he doth by necessity of nature, as when he is pushed or falleth, and thereby doth good or hurt to another: *mixed*, such as participate of both; as when a man is carried to prison, going is voluntary, to the prison is involuntary: the example," &c.

Here "*mixed voluntary*" is nonsense, and has nothing afterwards corresponding to it, the subsequent explanation being of "*mixed*" only; also the words "such as he," &c., given in explanation of "*involuntary*," are unaccounted for, nobody having been mentioned before in the paragraph. Going back to the folio edition of 1750, which Molesworth had before him, and from which he probably printed or rather (as Mrs. Grote's privately circulated recollections suggest) set his secretary to print, we get light on the second difficulty, the first lines of the paragraph thus running:—

> "Voluntary actions and omissions are such as have beginning in the *will;* all others are *involuntary* or *mixed voluntary*, such as a man doth upon appetite or fear; *involuntary*, such as he doth," &c.

The "he" is thus accounted for; but the monstrosity of "*mixed voluntary*" still remains, as it had figured also in the two directly prior editions of 1684 and 1651. This latter boldly gives itself out as, in comparison with the first edition of 1650, "augmented and much corrected by the author's own hand"; and here and there, no doubt, corrections are to be found, which may have been made by reference to some one of the MSS. copies which Hobbes had handled. That he was not himself, in any other way, responsible for the 1651 edition is, however, certain, since then for the first time the gross blunder of "*mixed voluntary*" appeared. Whatever the other shortcomings of the original edition of 1650, this particular passage had there been correctly given, by presence of an all-important colon between "*mixed*"

and "*voluntary*,"—found again only in the small edition (of 250 copies) issued in 1812 by Philip Mallet, which, though it elsewhere goes wrong with the otherwise misleading edition of 1651, sets right this worst error of all. The example has thus far shown how, by comparison of editions if carried back to the first, or even (as it probably was with Mallet) by common sense, the serious blots in *Human Nature* might have been removed without reference to MSS. at all. But, if now, by the side of Molesworth's peculiarly aggravated misrendering given above, the whole passage is read as Dr. Tönnies gives it (p. 62), it will be seen that his recourse to the original sources has resulted also in a positive gain :—

"VOLUNTARY actions and omissions are such as have beginning in the will; all other are INVOLUNTARY or MIXED. Voluntary, such as a man doth upon appetite or fear; involuntary, such as he doth by necessity of nature, as, when he is pushed, or falleth, and thereby doth good or hurt to another; mixed, such as participate of both; as, when a man is carried to prison [he is pulled on against his will, and yet goeth upright voluntarily, for fear of being trailed along the ground; insomuch that in going to prison,] going is voluntary; to the prison, involuntary. The example," &c., as before.

The words, here for distinction put between brackets, are printed for the first time by Dr Tönnies, and have undeniable force in pointing the illustration. Perhaps no other one passage could be cited where, within the same compass, there is so much at once added and corrected; but the example is none the less fairly representative of the improvements, negative or positive, made on every page of this new edition. If, with or without the chapters hitherto known as *De Corpore Politico*, the other chapters passing as *Human Nature* have taken rank as a philosophical classic, still more may that distinction be henceforth claimed for *The Elements of Law Natural and Politic*, now at last correctly and completely presented with all the traces of Hobbes's hand upon it.

As to the previously unprinted pieces here appended by Dr. Tönnies to the *Elements*, one of them at least, *A Short Tract on First Principles* (pp. 193-210), was well worth bringing out of its MS. obscurity, because of the curious stage it marks in Hobbes's passage, about 1630 (after he had learned some geometry), from the traditional scholasticism to the new mechanical philosophy of the century. The extracts given (pp. 211-26) from an unpublished *Tractatus Opticus* are of less account. If Dr. Tönnies is right, as he may be, in dating this treatise as far back as towards 1637, he can hardly have ground for saying that "it is evidently the first draft of what was intended as the second section of his system of philosophy, *viz.*, the *De Homine*". There is no reason to suppose that anything, optical or not, that we now read in the *De Homine* can have been drafted till a considerable time later. The point, however, is too unimportant, considering the relative

unimportance of the *De Homine* altogether in Hobbes's system, to justify farther remark upon it here.

The second reprint, *Behemoth*, can be welcomed in few words. Dr. Tönnies has found, in the library of St. John's College, Oxford, what is evidently the original MS. of that racy production of Hobbes's old age. Composed towards 1668, and prevented from appearing by Charles II., to whom it was shown, it got surreptitiously into print from an imperfect MS. copy just before the philosopher's death in 1679; nor, though Hobbes's own publisher professed to give it from the original in 1682, can he have printed from anything but a less imperfect copy. The St. John's College MS., bearing corrections in the author's hand, has enabled Dr. Tönnies to fill in a large number of careless omissions of the copyists, and, farther, some passages or phrases which, erased apparently from prudential motives, were not so obliterated that they could not in general be deciphered and restored. A dedication to Hobbes's friend at court, Lord Arlington, is, for the first time, made known; but, most important gain of all, we now learn the true title of the work with its special significance. Followed by the old sub-title, "The History of the Causes of the Civil Wars of England from 1640 to 1660," the name *Behemoth* seemed nothing more than a verbal fancy after the name *Leviathan*. It is now seen that, as this was taken from the Book of Job to pictorially mark "The Matter, Form and Power of a Commonwealth Ecclesiastical and Civil," so Hobbes went back to the same source for the name of the other monster to figure "The Long Parliament" that had reared itself for so many years against the lawful government of his country. Dr. Tönnies has found that, in a hitherto unpublished part of a letter to Aubrey, Hobbes spoke of the other as a "foolish title" when the unauthorised publication came upon him as a surprise in 1679.

EDITOR.

La Morale, l'Art et la Religion d'après M. Guyau. Par ALFRED FOUILLÉE. Paris: F. Alcan, 1889. Pp. vii., 197.

This monument to a deeply lamented thinker (for obituary note, see MIND xiii. 470) whose whole existence, as M. Fouillée well says, "realised his own ideal of the fecundity of life," leaves nothing to be desired either as a presentation of Guyau's personality or of his philosophy. It is a piece of literary portraiture that is well prefigured by the fine portrait of Guyau placed at the beginning of the volume. In rather less than 200 pages M. Fouillée has summed up the results of Guyau's varied activity; and the effect that remains is that of a comprehensive view of things that is both a characteristic product of contemporary thinking and has the stamp of a distinct individuality. Guyau's individuality was, indeed, impressed on all his works. That

these were parts of a single plan and were the expressions of a definite philosophical view has now been made evident to all readers by M. Fouillée.

The characteristic of Guyau that is most obvious is a certain eagerness of temperament that caused him to seize with enthusiasm first upon those ideas of ancient philosophy that were the objects of his early studies, and then upon modern cosmical conceptions. Before publishing his well-known *Morale d'Epicure* he had translated the *Enchiridion* of Epictetus and occupied himself with Neo-Platonism. A kind of Platonic theodicy, M. Fouillée tells us, was the theory of the universe that first attracted him; but, finding it impossible to retain this in face of that "indifference of nature" that seemed to him alone compatible with modern science, he sought to educe a new metaphysical doctrine that should give emotional as well as intellectual satisfaction from modern science itself. His attitude now became and ever after remained, as M. Fouillée expresses it, one of "intellectual doubt" combined with "moral hope". This combination is characteristic of the *Vers d'un Philosophe*,—a volume which M. Fouillée studies with great care. Here the "doubt" receives more adequate expression than the "hope"; but afterwards Guyau formed for himself a definite metaphysical doctrine giving promise of a final consummation of the whole history of the world in a perfect "cosmical society," and leaving a place for personal immortality as at least possible. The idea in which above all he sought inspiration was now that of biological evolution. From the idea of evolution sprang his ethical and æsthetic as well as his metaphysical doctrine. This last he held simply as a hypothesis in which, since its truth is at once possible and desirable, we are permitted to "believe because we hope". Ethics and æsthetics he thought could be established on purely scientific grounds, that is, independently of any metaphysical doctrine, though not independently of the general doctrine of evolution. For evolutionists who are able to accept a metaphysical hypothesis, however, this has an important reaction on the scientific theories of morality and art.

M. Fouillée expounds in order first Guyau's æsthetics, then his ethics, lastly his religious and metaphysical doctrine; a short account of his theory of education being interposed between the chapters on ethics and religion. In expounding the æsthetic doctrine he, at the same time, ably defends it against the criticisms made upon it by those who think it does not sufficiently recognise the independence and disinterestedness of art. He himself contends, with Guyau, that art is capable of having a "moral and social mission," and that it does not simply consist in a kind of contemplation resembling "play," but has its basis deep in life—ultimately in the feeling of existence, of which, and of the feeling of "action," it is the pleasurable expression. To the last of these ideas full justice does not seem to have been yet

done by the critics; but, perhaps, this is to a certain extent due to its mixture with the questionable theory as to the "sociological" nature of art. The reply to Guyau from the point of view of those who regard art as essentially disinterested is, of course, that to whatever extent it may have had or may come to have a "moral and social mission," this can never be of its essence. The other part of Guyau's and of M. Fouillée's doctrine contains, however, a real correction of the exclusively "representative" or "imitative" theory of art. Æsthetic emotion cannot be wholly resolved into calm objective contemplation of imitated forms, but has a transforming element of subjective feeling. It is this, as M. Fouillée says, that may be regarded as "animating" the work of the artist. And this element of subjective feeling must be present not only in the mind of the artist but in the minds of those who æsthetically appreciate his work. The desire for something more than can be expressed, as M. Fouillée shows, is also an element of artistic creation that can be viewed æsthetically as one form taken by the perpetual evolution of life. When, however, he goes on to treat this as if it were a desire to realise in actual life what has already been achieved in art, this is again, under the influence of the "sociological" doctrine, to desert the æsthetic point of view.

Guyau's ethical, like his æsthetical, doctrine is an attempt to find a basis for a new theory in the idea of evolution as a process of continuous "expansion of life" into forms that become ever more social. Since the desire for life is normally ineradicable, Guyau argued, whatever kind of action can be traced back to this as its perennial source becomes inaccessible to the destructive influence of scientific analysis. Reflection on the instincts that are forms of the expansion of life, and that do not become disconnected from this in the course of their evolution but manifest it more and more, simply makes the desire for life that is at the root of its "expansion" conscious of itself. The moral and artistic instincts, in the light of the theory of evolution, are seen to be forms of this expansion. The evolutionist, therefore, may safely allow reflection to take the place of instinct. The permanence of art and morality—and not merely their permanence, but their indefinite progress—is for the evolutionist who has penetrated to the centre of his own doctrine finally secure.

Just as it has been objected that Guyau's theory of æsthetics does not explain what is distinctive in art, so it has been objected that his ethical theory does not explain what is distinctive in morals. And, doubtless, personal enthusiasm for morality viewed under the general conception of expansion of life, which, as M. Fouillée says in one place, is essentially what Guyau tried to substitute for the "feeling of obligation," is not quite the same thing. It was intentionally, however, that he made this substitution. That which preoccupied him was rather the question of the "moral end" than of the "moral law". His aim was not so

much to explain and justify the feeling of obligation itself as to show that when insight has been obtained into the process by which the ethical feelings generally have been formed, there is an end—namely, "life"—to which moral rules can be attached, so as to be an object of interest for the individual. And if we regard Guyau's theory, not as a complete doctrine of conduct, but as an attempt, by means of a certain view of the destiny of the world, to give increased energy to moral action, then it has a value beyond the limits of ethics. It appears as a religious rather than a strictly ethical doctrine, and must be criticised in relation to the metaphysical and religious theory which Guyau himself, as well as M. Fouillée, evidently regarded as the culmination of his philosophy.

This theory is defined as a "monistic naturalism". It is optimistic, and, in a sense, teleological. The whole world is regarded as moving towards a universal harmony of life in which the fullest development of individuality shall co-exist with the most complete social "interpenetration". Metaphysic itself is "the supreme and inevitable expansion of the individual life, tending to re-establish its unity with the universal life". That at the background of Guyau's doctrine there is doubt is admitted; but, by the principle of metaphysical "risk" (derived by Guyau from M. Fouillée), this doubt itself is made the basis for an affirmation of that possibility which we should desire to be real, and which we may, perhaps, help to realise. Thus Guyau obtains "a sort of personal and non-categorical imperative suspended to a hypothesis". "The religions say:—I hope because I believe. . . . Guyau answers:—I believe because I hope." For the practice of ordinary morality, it is admitted, this doctrine inspired by "moral hope" is unnecessary; but to raise ourselves to the practice of extraordinary virtues some metaphysical hypothesis has always to be assumed. This, by its reaction on morality and art, may transform both into a kind of religion.

Whether this way of looking at things can ever become widely diffused, as Guyau and others suppose that it may, is not at present the question. The first question is one of classification. As a matter of classification, M. Fouillée seems to be quite right in looking upon Guyau's metaphysical speculations as having essentially the religious character. To understand his intellectual development and the bond of connexion of his works we must always keep in view his personal enthusiasm for a cosmical doctrine regarded as capable of inspiring moral emotion. The doctrine at which he finally arrived, while it is not in spirit unlike the theodicy with which he started, has, at the same time, a distinctly modern colouring. It seems to bear the same relation to the naturalism of the Stoics that modern pessimistic theories bear to Oriental doctrines of emanation. What makes it specifically modern is the idea of a progressive history of the world, and of its future as an object of

effort in the present. Yet it does not affirm this view as the simple deduction from the theory of evolution that it seems to many moderns to be, but rather as an extension of that theory in the direction suggested by hope. A ground of philosophical objection that might be taken is that (in a way of his own) Guyau attempts to found metaphysics on ethics; but to discuss the legitimacy of this procedure would be to enter on a rather large debate. This, however, is to be said, that the most characteristic aspirations of contemporary thought, in their union with the intellectual doubt that accompanies them (which is equally characteristic), have been expressed by no one better than by Guyau.

THOMAS WHITTAKER.

Le Phénomène. Esquisse de Philosophie générale. Par. J.-J. GOURD, Professeur à l'Université de Genève. Paris: F. Alcan, 1888. Pp. 447.

Many attempts have been made to revive the Leibnizian doctrine of monads, and perhaps this is the theory of the ultimate nature of things that is now most in favour with metaphysicians. Its obvious defect in its best-known forms—such as the metaphysics of Lotze—is that it does not take sufficient account of the modern criticism of the notion of substance, but postulates the existence of a substantial soul as the substratum of phenomena. Prof. Gourd's book is remarkable as an attempt to furnish the basis for a new monadism that shall be consistent with "phenomenism" in its application to the notion of mental as well as of material substance. In his present volume he does not work out his metaphysical doctrine itself; but he aims at showing that the doctrine of a plurality of monads is not only consistent with the rejection of all "ultra-phenomenal substances," but that the analysis of experience on phenomenist principles points to this as the solution of the metaphysical problem. There is room within experience, he contends, for the conception of substance as persisting fact; and the facts that persist, it may be shown, are "separate" facts, facts divided from one another by impassable "limits". From this result he concludes to atomism in physics and monadism in metaphysics.

"General philosophy" as defined by Prof. Gourd does not very much differ from what is ordinarily called "theory of knowledge". Its object is the "ultimate diversities" of experience. These ultimate diversities, in the author's view, are all reducible to the "supreme abstract," consciousness. For science they are principles of explanation. For "general philosophy" the principle of explanation is consciousness, to which they are reducible. They all consist of "dualities," or pairs of opposed terms. Of these there are three that are irreducible except to the "supreme

abstract". The names the author gives to them are—"the aspects of the phenomenon," "the moments of the phenomenon," and "the facts of the phenomenon". The duality of aspects is the opposition of "resemblance" and "difference"; the duality of moments is the opposition of the "physical" and "psychical" orders of phenomena; the duality of facts is the opposition of "being" and "not being". With the first diversity are connected other diversities reducible to it, the relations of which are traced out by the author with much subtle analysis. On the side of resemblance he places the "scientific" and the "causal"; on the side of difference the "non-scientific" and the "non-causal"; the point that he especially enforces being that there are differences among the particulars of experience that escape the grasp of scientific laws. "Resemblance" and "difference" universally coexist; but while there is no resemblance without difference and no difference without resemblance, each may be present to any degree, from a minimum to a maximum. Acts of "free-will," since they involve the "non-causal" and strictly "new," are not objects of science; but they exist among the differing elements of experience. The terms of the second diversity, being mutually exclusive, cannot be called "aspects" like resemblance and difference. Neither can they be called "facts"; for the reality remains the same whether it is "physical" or "psychical". The best name for them is "moments," used not in the strictly "chronological" but in an analogous sense. Within the psychical moment there is the diversity of the "affective" and "intellectual" moments; within the physical moment, the diversity of "matter" and "change," or, more exactly, "form". The affective and material moments are "non-relational"; the intellectual and formal moments, "relational". Relation is at its minimum in the affective moment, at its maximum in the explanations of physical science. When it is said that the diversity of "facts" of consciousness is that of "being" and "not-being," it is not meant that "not-being" is itself a fact, but that it is the "negative," as "being" is the "positive," "element of fact". That is to say, there exist "separate realities," "closed-off totals"; being is not absolutely continuous. There is "separation," "limit," "interval"; and the name for this is "not-being". It is at this point that the author finds the rejection of pantheism and the acceptance of monadism in the psychical and of atomism in the physical world to be necessitated (pp. 379-80). Evolution, to which he refers at the end of his study of "the facts of the phenomenon," he does not reject; but he finds that the question of the first origin of "groups" is scientifically insoluble (p. 390). The theory of evolution merely sets forth the continuity and resemblance that exist; and the real history of groups includes more than continuity and resemblance. There are differences among realities, —whether inorganic things, individual organisms or species of

organisms,—that are finally inexplicable, that is, remain for ever "true inconvertible differences".

Prof. Gourd's doctrine is, as he claims on its behalf, a consistent phenomenism. Some doubt might seem to be thrown on this by his use of the term "dualism" to describe his own position; but the term refers to the "dual opposition" or "diversity" of the "moments" of experience, and not to a diversity between the substances of matter and mind. If a "physical" is distinguished from a "psychical" moment, there is no real ambiguity; for the physical moment, in Prof. Gourd's defination, is no more "extra-conscious" than the psychical moment. By "fact" or "phenomenon" he always means a fact of conscious experience; and the notion of the externality of the physical world to consciousness is described as arising by a "projection," having a certain illusory character till it is brought under philosophical analysis, of elements that are simply elements of consciousness.

In the preparation that is made for a constructive metaphysics, there is to be noted the constant effort to find a meaning within experience for such terms as "absolute," "infinite," "being," "substance," and others that it has been too easily supposed must be expelled from a scientific and critical philosophy. Prof. Gourd's discussions of these terms, whether they are conclusive or not, will always repay study. In metaphysics he finds that there is inevitably a "projection" beyond experience, not necessarily illusory, but never perfectly verifiable. It is in not being perfectly verifiable that metaphysics differs from science. The condition that is to be laid down for every metaphysical construction is that its materials must be such as are found within experience. When, for example, we assert the existence of other individualities besides our own, we are simply asserting the existence of other series of conscious states, and not of something that is foreign to all consciousness, as when the older conceptions of substance were used. A metaphysical explanation of things may proceed further in this kind of construction; but it must not work with such conceptions as those of unknowable substrata of phenomena. Nor must it attempt to explain the world as simply a network of relations, in the manner of the Hegelian Rationalism. The "affective" and "material," as well as the "intellectual" and "formal" elements in experience, must be taken account of by metaphysics.

The value of much of this teaching may be recognised independently of acceptance or rejection of the author's positive metaphysical doctrine; but after all it is the metaphysical conclusions indicated that give their strongest interest to all discussions of "theory of knowledge"; and a notice of Prof. Gourd's book would be too incomplete if nothing were said as to the bearing of the analyses of his "general philosophy" on his monadism. Does mere analysis of experience, by bringing to

light "ultimate diversities," compel the rejection of pantheism, that is, of the systems for which individual things are determinations of the whole, and the acceptance of monadism, or the doctrine of a plurality of absolutely separate real existences? This is the question that will finally present itself to those who have followed Prof. Gourd's analysis of thought. Now, his argument against pantheism is summed up in the remark (pp. 131-2) that all pantheistic systems make the diversities of the universe arise *ex nihilo*. He himself (in his indeterminism, for example, as he acknowledges) admits creation *ex nihilo;* but, of course, this does not make the argument against pantheism any weaker; and if a monadist, rejecting creation, were to affirm the pre-existence of all monads from eternity, then his position would seem to be exempt from any counter-attack based on philosophical objections to the idea of creation in general. A pantheistic explanation of things, nevertheless, remains possible even in face of this more thoroughgoing monadism. For the "differing elements" that are arrived at by analysis are not themselves separate individual things. Differences between individual things remain for monadism, as well as for pantheism, something to be explained, at least by their reduction to differences between elements. Since the differing elements that have been arrived at are simply "abstracts," it is not to be inferred from their being known apart that they really exist apart. Thus it seems open to anyone to hold as a metaphysical hypothesis, in opposition to the doctrine of a plurality of separate substances, the position that the term "substance" is properly applicable only to the whole of existence. Consistently with this position it may be held that diversities have preexisted eternally; the differences among individual things being conceived as arising by segregation of elements. That this hypothesis is sustainable is not, of course, sufficient to establish pantheism; but, at least, it may be taken as proof that the philosophical analysis of experience does not compel its rejection.

THOMAS WHITTAKER.

System der Ethik, mit einem Umriss der Staats- und Gesellschaftslehre. Von FRIEDRICH PAULSEN, a. o. Professor an der Universität Berlin. Berlin: W. Hertz, 1889. Pp. xii., 868.

The flood of ethical treatises which has poured over Germany in the course of the last ten years is a sign of the times open to more than one reading. It may be that criticism and politics have gone so far in the way of disintegration that reconstruction has become the need of the hour, and that the question stares the reformer in the face, What is the ultimate aim of all reform? It may be that the pressure of a consolidated empire forces to ask What next? It may be that the curiosity about the laws of

spiritual life is a natural reaction from the aridities of scientific specialism in its cruder forms. Anyhow, things are different from what they were during the third quarter of the century, when (it was said) hardly a single course of lectures on ethics was offered at Berlin, and none save the theological student thought of attending such a lecture. Since Hartmann's review of moral principles and systems in his *Phœnomenologie des sitt. Bewusstseins* in 1879, a lively discussion has gone on about the origin of ethical ideas, and attempts have been instituted to present a systematic account of ethics. As an indication of this acceleration of the ethical pulse, it may be mentioned that Prof. G. v. Gižycki's work on morals (of which the second edition was reviewed in MIND No. 54) originally appeared in 1882 as a prize-essay, placed first over more than sixty competitors.

From the very nature of the subject, a precise or steady demarcation of the province of ethics is impossible. At times it has been unduly narrowed in range by Christian theology, condemning it to thrash out the logic and psychology of a system which had been already fixed, and at other times it has seemed, in disdain of details, to let the real sciences of economics and society usurp its place. More recently the danger has been to see it swamped by biology or sociology, the boundary obliterated between purposive actions and purposeless events. The last century was logical and rationalist: it dealt with a changeless subject—the rational being. The present is historical—noting the infinite variety of human ideals, and has even become biological—slurring over the lines that separate nature from purpose. Generally speaking, ethics will either be a theory of moral principle, or a history of moral ideas and a plan of moral training. The former will be what Kant has called a metaphysic of ethics, or a science of ethics. But there is a widespread distrust of metaphysic and science in this usage of the words; and instead of a metaphysic or fundamental theory we may oftener get a series of reflections and disjointed remarks on the salient ideas and the larger questions which have from time to time emerged. Similarly, instead of construction of a moral ideal, it is more convenient to take the accepted and conventional types under which aspects of moral worth have been stereotyped, and to fill up the picture with a wealth of appropriate detail. The bald severity of the style which laid out principles in hard clearness of outline has given place to a milder treatment, which conceals the principles in the luxuriant imagery of concrete facts. Ethics, being a general human concern, requires, it is thought, to be treated with an ease of style and a breadth of detail which will commend itself to the popular heart.

It is the latter method which Dr. Paulsen has adopted. As an author on the history of philosophy and of education, he has given utterance to his dissatisfaction with the ideals of scholasticism and dogmatism. He has expressed his unreserved admiration of

the standpoint of Hume. If he respect Kant, it is the sceptical and critical Kant—not the philosopher who reverts to the dogmatic slumber out of which he was aroused. In culture, he demands a less strictly classical and more practically humanitarian training. Narrowness and rigidity are abhorrent to him alike in philosophy and in patriotism, in education and in politics. But, above all, he turns away from the metaphysical method which governed philosophy in the first third of the present century. He has hardly patience with the effort of Kant to find a formula for ethics—for science, as he declares, wants explanation and not formulæ; and as for Herbart, *his* treatment of the ethical idea is stigmatised as a disruption of a single conception into five fragments. Fichte, Hegel and Schelling are left out of the sketch of modern ethics; and the only figure who survives from the Romantic epoch is Schleiermacher, held up, like the drunken Helot to Spartan boys, as an awful instance of what an ill-regulated passion for the wine of *a priori* constructiveness will bring a man to.

It is true that the book is styled a system of ethics. But the word has changed its implications since Kant declared that system was an inherent need of the pure reason. The days of regular and systematic reasoning, whether real or formal, are over. A system means only the opposite of a mere monograph: it implies that all the more important portions and questions of ethics are touched upon in an orderly but not too obviously logical arrangement. A system, in short, is rather a series of essays deftly conjoined so as to cover the main scope of the subject than a finely graded development from premisses to conclusion.

As such a series of ethical studies, Dr. Paulsen's book has a very high rank. It is popular in the better sense of the word. A reader of average education will find in its four books an amount both of information and of suggestiveness which is rare in ethical tractates. There is hardly a dull page in the book, and hardly one which calls for more intense thinking effort than the ordinary monthly magazine. In the first book—the history of moral philosophy—there will be found, besides a short sketch of the Greek moralists, an instructive discussion of the chief characteristics of Christian principles, and of the place they take in the medieval and the modern world. With few exceptions, too, this is no mere chronicle of *placita philosophorum*, but a philosophic review of the history of moral ideas both as vital powers inspiring conduct and as schemes of doctrine. The second book in a few chapters presents a variety of freshly-put and intelligent *aperçus* and criticisms on those questions round which controversy has raged fiercest. The problems of the chief good and of pessimism, of conscience and duty, of freewill, of happiness and virtue, are lighted up with some gentle lamps of criticism, and occasionally the argument rises into serener heights—into the

lucida templa of religion. The next book, on the virtues in detail, is rich in warning and observation, descending into the labyrinths of casuistry and rising again into the genial tableland of lofty principle. Lastly, the chapter on the forms of collective life, if it is scanty in its treatment of political, and not very novel in the *résumé* of domestic ethics, is particularly full and luminous in its examination of the social question, and of the socialistic remedies for social evils. And throughout, the ordinary reader will find no stumbling-block in a technical jargon, or a standpoint too abruptly antagonistic to ordinary habits of thought. The language of the book is the language of common life, and if occasionally a tone of transcendentalism is heard, the idealistic note is gradually and unobtrusively insinuated, and is neither long enough nor keen enough to awaken Philistine suspicions. An admirably wise moderation, an ample resource of literary example, and a judicious mixture of fact and theory, accompany the writer as he guides the unsuspecting reader, and justify the hope of his persuading the latter that ethics " is not harsh and crabbed, as dull fools suppose, but musical as is Apollo's lute ".

But if in copiousness of illustration and ease of treatment Dr. Paulsen excels beyond question, it is otherwise if we look at the amount of reasoned principle, at the consistency of fundamental view. According to him, ethics is a general art of life—a universal dietetic. As such, ethics holds out the promise of telling us how the human being will act and how he will organise his action socially in conjunction with others, so as to realise human nature in its amplest self-development. But it can only solve this problem in general terms—noting the grander outlines on which individual tact and skill must frame the concrete reality of a good life. And for these it has to go to experience—to the facts of moral history and the attempts at synthesis made by individual thinkers. So far as this means that ethics must deal with given facts and not phantoms, all are agreed. The divergence arises when we ask what ethics has to do with these facts. According to one school the fundamental problem is to ascertain the ultimate meaning or presupposition of the ethical idea,—to determine the elements, postulates and principle of morality. The opposite school is professedly practical, and treats this metaphysical analysis as an unnecessary subtlety. It rather asks, How may the existing codes and partitions of morality be rendered more complete, more adequate to human need?

Dr. Paulsen arrogates to this latter school the title of teleological, and distinguishes it from an intuitivist school of which he takes Kant as a type. The intuitivists, if we may believe our author, have the perversity to regard morality as an ultimate fact, which cannot be explained as a mere phase of something else. They further hold that, as such an ultimate fact, it is not wholly dependent on history and circumstance, but has a law and structure of its own. They are apt to insist on the universal

reign of duty and on the rigidity of conscience. They will have it that right is right, and not something else so called. According to Dr. Paulsen they thus worship a Moloch—a fetish—or some other irrationalism. He proposes a more excellent way—the teleological—the way of final causes. If morality exists, then like other things it must have its *raison d'être*. Presumably—such seems his point of view—it is a human institution. What, then, is its ultimate drift? Morality—such is his reply—exists to promote human welfare, to realise human faculty, to constitute the normal human being. Here we have indeed an *embarras de richesses*. But this is hardly all: for he is aware that morality is not a means, except in the sense that the parts are the means to the whole which is the end (*τέλος τέλειον*)—that moral action completely moral is also moral happiness. Now, if teleology in ethics only meant that every special moral rule has its place and meaning in a system of moral good, the view is, as Mill long since remarked, one on which all reasonable moralists are agreed.

The real antithesis is not evident under this formulation of the two sorts of ethics, and it is only hidden under appeals to happiness, welfare and normal humanity. Ethics as a study arises when the contrast becomes acute between the natural hedonism of the human being and the laws and institutions of society. When this antagonism is felt there are two ways of meeting it. The first is to show the congruity of the opponents—to prove their opposition a misunderstanding. The incongruity is only apparent and accidental. The restraints of rule and institution which appear to baulk natural inclination are only devices by which it may be more cunningly, safely and permanently gratified. This, for instance, is the argument of Bentham-Bowring, and of the 'Honesty is the best policy' doctrine, as vulgarly interpreted. It is true that few are quite outspoken in their adherence to this view. The logic of facts requires its modification. It is pointed out, accordingly, that the social welfare has also to be taken into account; and the phrase 'social organism' plays a large part in the discussion. But under that term there is tacitly introduced a conception of life other than that of a mere sum of enjoyments by an aggregation of individuals. Well-being cannot become an ethical standard by making it social well-being. All that can safely be said is that a social hedonism or eudæmonism—the terms in this way of thinking (*vide* Bentham) are convertible—gives the borrowed gloss of conventional respectability to the behaviour of the Yahoo. But the *dulce et decorum* of patriotic devotion is not really due to the superior merit of large numbers, but to the fact that in man's sociality his true nature finds expression. The society in which man is moralised is really the universal society,—society and humanity seen *sub quadam specie æternitatis*: which, to the common herd, is a perfectly unreal and absurd conception—a piece of exploded metaphysics.

The other school of ethics also seeks to find a harmony between the individual and the common law—but otherwise. It finds in rules and institutions not a method of realising more securely the lower happiness, but the indications of a higher conception of happiness,—of a reversal of the natural and animal estimate of life. Ethics does not rise above a natural history of the devices for happiness called moral rules until it has seen that through the natural society (family, economic and political association) is signified what religious writers have called the invisible church—the heavenly idea after which the earthly fabrics have been constructed. Ethics begins when we treat social forms and duties as not mere contrivances to keep things together, mere palliatives of passion and servants of inclination, but as modes in which nature and circumstances have allowed human nature to reach a higher level. It is thus the law of the higher life—the principle and condition of true life—and not a mere machinery for facilitating the accomplishment of the lower. It implies the presence of a higher conception than the ordinary—what Plato and Aristotle call wisdom and describe as an eye of the soul turned by experience and example away from the phantasms of appetite to the realities of reasonable will. For him who has not got that organ of vision Ethics speaks an unintelligible language. You can no more demonstrate the passage from natural egoism to the spiritual law than you can show continuity from body to soul. *Longe optima demonstratio est experientia:* there is no other. You cannot, as Aristotle says, impart an ἀρχή. And you can never show that morality is only a casual outgrowth out of what is non-moral.

Instead of all this, Dr. Paulsen finds his master-idea in human welfare. The value of life, he tells us, consists in the sound and normal exercise of all the vital functions to which the being is naturally predisposed. But every word in such a formula involves dispute and ambiguity. What is normal? What is natural? And what is predisposed? To answer these questions is only possible through a metaphysical discussion, and in its place Dr. Paulsen gives us only some excellent remarks in his chapter on the theistic or idealistic view of the universe. It is useless to bid us appeal to experience. Experience, whether as a rough collection of facts or as statistics, will answer according as it is asked, or rather will not really answer at all. Ethics, as Mill affirmed no less than Kant, ultimately rests on something which transcends inferential reasoning: whether it be described as a categorical imperative, or a divine law, or an internal natural sanction, a sentiment of universal humanity. It rests on a distinction of grades of life, on a hierarchy of impulses, on a tendency to perfection. And this Dr. Paulsen admits.

The gravest defect of Dr. Paulsen's standard, the general welfare, is its indefiniteness. His language leaps to and fro lightly across the great gulf which separates the 'greatest-happiness'

from the 'perfection' principle; and he nowhere clearly raises the dispute between the claims and duties of the individual and the community. There is also an uncertain sound about his relations to evolutionism. Evolutionism in its way is teleological: but its end is temporary fitness to the environment. And in many passages we trace a tendency to make ethics thus relative. But, on the other hand, there is emphasis laid on the conception of an end which is not the culmination of the natural process for the moment, but the eternal law and system of the kingdom of God. Between these two conceptions of ethics Dr. Paulsen remains undecided.

Thus it is hardly fair to describe Greek ethics as a *naïve* naturalism. Every Greek moralist—even Epicurus—carried further the contrast which the nation generally had drawn between the inward harmony and the outward display; sought to substitute a truer view instead of the superficial estimate of life; tried to penetrate to a higher 'nature' than was vulgarly apparent. The difference between the Greek and the Christian lay mainly in the tendency of the latter to distinguish this higher nature as the very principle of nature from nature properly so called—the scene of growth and decay. Probably, too, in his attempt to formulate the moral value of Christianity, Dr. Paulsen has been ready to bow too much to the temptations of antithesis. Any definition of great historic principles, like Christianity, is sure to be exclusive. It is as misleading to compare Christ to Savonarola as to see in him a prototype of what moderns call genuine humanity. Such one-sided modernisations are almost inevitable in a rapid estimate of moral progress; but attention must be called to the risk. And it may be doubted whether to say that Christianity has given a truer estimate of the place of sin, pain and sacrifice in life and history is not to deny to ancient and medieval experience a wisdom to which they may well lay claim.

It is impossible to follow Dr. Paulsen through his work; and we should only confuse the judgment if we noted the points of disagreement instead of the vast mass of excellent matter which would lose by being abstracted. The fault of the book is its fragmentariness. There are excellent remarks and criticisms, but they do not go far enough to form one sound and systematic basis. Yet for this, too, there is an excuse: the book would otherwise probably be cast aside by those to whose mind it is calculated to do much good. Even the casuistical tendency which pervades it is mainly in the interest of higher moral ideas as against lower. Yet in the prominence which he gives to the circumstances which modify duties and perplex conscience, there is an element of danger. What his doctrine really amounts to is one long protest against the absoluteness of separate moral rules, and an accusation of the conscience which is content to go by general maxims. He describes the conscience as constituted by

the inward reflexion of outward law. If he had said that what people were pleased to call their conscience was generally only the echo of their social standards, he would have been nearer the mark. But to apply the term conscience to anything beside the purely individual and inward certitude seems a perversion of the term; as much as to define knowledge to be what a person had been taught.

The strength of Dr. Paulsen's work, then, is as a contribution to practical ethics. Practical ethics is too often liable to be *doctrinaire*, hard and vague: or, on the other hand, it is lost in a multitude of details. The present work steers its path between these opposite errors, and deals with the *media axiomata* of ethics. Not the least interesting chapters are those which deal with the physical conditions of welfare, with the growing belief that manual labour stamps degradation, with the evils of drunkenness and smoking, and the effects of city-life on mind and body. The chapter on Socialism and Social Reform is a temperate statement of the issues involved in that knotty problem. And the chapters on the limits of the State's action are a seasonable contribution to the discussion of the value of parliamentary and representative government.

W. WALLACE.

VI.—NEW BOOKS.

[*These Notes (by various hands) do not exclude Critical Notices later on.*]

Darwinism: An Exposition of the Theory of Natural Selection, with some of its Applications. By Alfred Russel Wallace, LL.D., &c. With Map and Illustrations. London: Macmillan & Co., 1889. Pp. xvi., 494.

The importance of the contribution made in this charmingly written book to the biological theory of evolution cannot be overrated. It is, in some respects, the most effective plea yet worked out for Natural Selection as the all-determining factor of organic evolution. And that it should be presented as an exposition of "Darwinism" by the man who had least obligation to give exclusive prominence to Darwin's personal achievement in the case, is the crowning proof of Mr. Wallace's superiority to all such considerations of *amour propre* as have disfigured too many pages in the annals of science. Readers will look elsewhere for an estimate of the general argument of the book, conducted throughout with so much vigorous independence; but some note should be taken here of the application made at the end to the question of human faculty. In Mr. Wallace's opinion, though the whole of man's bodily structure, brain included, must undoubtedly be referred to an animal origin, it is otherwise with his intellectual and moral nature. Three faculties in particular—the mathematical, the musical and the artistic (*i.e.*, plastic, pictorial, &c.)—seem to him to have been manifested at times and under conditions, whether for races or individuals, that exclude the possibility of their having been evolved and developed by Natural Selection, working upon its ordinary and necessary basis of useful variation. The problem, which need by no means have been confined to these three faculties only, is a serious one enough for thoughtful evolutionists. For himself, Mr. Wallace can but declare that the facts "clearly point to the existence in man of something which he has not derived from his animal progenitors—something which we may best refer to as being of a spiritual essence or nature, capable of progressive development under favourable conditions" (p. 474). Whether the last clause of this sentence is exactly consistent with his argument as it had gone before, may be questioned; but the point of chief interest is how his supposition of "a spiritual nature superadded to the animal nature of man" is to get him over the real difficulties of the case. He goes on to urge, in a way that is common with others, that "there are at least three stages in the development of the organic world when some new cause or power must necessarily have come into action"—namely, the appearance (1) of vitality, (2) of "sensation or consciousness," (3) of man's "most characteristic and noblest faculties"; though it has all happened, he thinks, without "any breach of continuity". Here, again, the modifying clause might give occasion for a good deal of question; but let it suffice to note what the position has now become. The "three distinct stages of progress point," he says (p. 476), "clearly to an unseen universe—to a world of spirit, to which the world of matter is altogether subordinate," or, as he puts it a few lines lower down, "probably depend upon different degrees of spiritual influx". It is therefore, with Mr. Wallace, no longer a question of the origin

of distinctively human faculty only; he cannot without "spirit" account for animal faculty or vegetable faculty either. Nay, once in the vein, he will have it that also "to this spiritual world we may refer the marvellously complex forces which we know as gravitation, cohesion, chemical force, radiant force and electricity, without which the material universe could not exist for a moment in its present form, and perhaps not at all, since without these forces, and perhaps others which may be termed atomic, it is doubtful whether matter itself could have any existence". In a certain sense, it may be true; but how does Mr. Wallace not see that he is mixing up points of view? He has here been led on to graze questions as to the universal frame of things that are of philosophic import, rather than questions of science. Now it is not a hopeful way of beginning *philosophical* consideration to start from a metempirical imagination invented only to eke out the shortcomings of Natural Selection as scientific theory: a philosophical interpretation of the universe needs very different kind of founding. On the other hand, if Natural Selection fails, in regard to human nature, to give that understanding which it ever does give of any manifestation of life, it is surely not "spirit" that will ever avail to make up the *scientific* account.

Francis Bacon: His Life and Philosophy. By JOHN NICHOL, M.A., LL.D., Professor of English Literature in the University of Glasgow. Part ii. Bacon's Philosophy, with a Sketch of the History of previous Science and Method. ("Philosophical Classics for English Readers.") Edinburgh and London: W. Blackwood & Sons, 1889. Pp. viii., 259.

Prof. Nichol here treats of Bacon's philosophy with the same kind of literary art that he brought to bear, some months ago, on the story of Bacon's life (see MIND xiii. 605). The result, good reading though it be, does not alter one's opinion that Bacon, upon whom so much work both scientific and popular had already been done, was not the thinker for whom the one-volume rule of the "Philosophical Classics" series should first have been broken. As his life, for any light it could throw on his philosophy, needed no re-writing through a whole volume, so now his philosophy is made to fill another only by having prefixed to it a long sketch of the thought of 2000 foregone years, which is but here and there more pertinent to Bacon than to Descartes or even Hobbes, who each made as independent a start as Bacon in the 17th century. Nor, brightly written as the sketch is, can it be said to be justified by inaccessibility in most of the (second-hand) authorities upon whom Prof. Nichol draws. When, however, he comes to his proper subject, there is certainly no lack of mastery over the tangle of the Baconian writings, and a fairer exhibition of the strength as well as shortcomings of the philosopher's achievement could not be desired. Less adequate and satisfactory is the account given of Bacon's influence upon those who came after. Here there is not much evidence of independent inquiry, and names of philosophers, still more of scientific workers, are apt to get collocated in ways not over-exact. Misprints, too (especially in the last pages), might easily have been fewer. There are useful tables of predecessors, contemporaries, works, &c., at the end. Still more useful, considering the multiplicity of names and matters touched on in the volume, would have been an index. [By the way, as to Bacon's works, is it after Spedding and Ellis that all the recent books seem to give 1627 as the date of Rawley's publication of *Sylva Sylvarum* and *New Atlantis?* An original edition, under the present writer's eye, bears 1626 plainly on its front.]

Knowing and Being. By JOHN VEITCH, LL.D., Professor of Logic and Rhetoric in the University of Glasgow. Edinburgh and London: W. Blackwood & Sons, 1889. Pp. vii., 323.

This first series of "Essays in Philosophy," to be followed by others of a like original intention, consists of lectures given from the author's professorial chair to an advanced (voluntary) class in the session just ended. The ground now covered is indicated in the following list of topics:—Recent Theories; Nature and Consciousness; Reality; Relation; Transcendental Deductions and Nature; External Perception; External Consciousness; Infinite Self-consciousness; Philosophy of Religion. The exposition, sufficiently polemical in character, has Green's philosophical doctrine for its main text. Critical Notice will follow.

Know Thyself; or, Psychology for the People. By A. W. HOLMES-FORBES, M.A., Barrister-at-Law. Dublin: Hodges, Figgis & Co., 1889. Pp. 52.

The author, having before written on æsthetics (see MIND vi. 292), here offers a new psychological analysis, and keeps in reserve an application he has made of it to the chief problems of ethics till he sees how the analysis is received. Aside from metaphysics, with which he would rather not meddle, he finds what he considers a new and important clue to psychological truth in the popular distinction of body and soul as making up man *or* (!) mind. He has no difficulty (with or without metaphysics) in interpreting this to mean that there is in mind a "spiritual element" and a "corporeal element," nay, more—that, as mind is "union of body and soul," so the two "elements" (spiritual and corporeal) result in a third, which he calls "intellectual element". For (p. 18) must not water have, besides certain peculiarities due to the presence of hydrogen and certain other peculiarities due to the presence of oxygen, still others "due to the *union* of these two gases"? To be sure, he has to remind us (p. 29) in another connexion, where the analogy of water again is drawn in, that "water is not a bit like the gases which compose it"; but let that pass. Howsoever attained, the important psychological discovery is of a "mental trinity," in which the three "elements"—spiritual, intellectual, corporeal—come to figure as (respectively) "the faculties," "consciousness," "the senses". This last triad now gets run out into three parallel series of what the author, apparently, must still call "elements". "The faculties" (meaning perception, reason, memory, &c.) yield the series—sentiment, emotion, aspiration, power. To these correspond under "the senses" the series—sense, sensation, appetite, motion. And, in the middle, under "consciousness" come *pari passu*—thought, belief, intention, will. If the reader does not exactly see how, for example, "the faculties" should behave in such a way, he may readily learn by turning to the tract itself, which has the great merit of shortness, besides being more or less lively from cover to cover. On the whole, one may hazard the conjecture that the strength of the author's ethics will not be found to lie in its accommodation to this novel psychological scheme.

The Primitive Family in its Origin and Development. By C. N. STARCKE. ("International Scientific Series," Vol. lxvi.) London: Kegan Paul, Trench & Co., 1889. Pp. xi., 315.

The character of this book is, as the author says, "mainly critical". Previous theories of "the primitive family" having failed to distinguish accurately between the family and the clan, it has been necessary to

bring out the distinction; and, to do this, elaborate criticism of theories opposed to the author's was required. The general impression got from the book is that the author is a little too anxious to disagree with other theorists. At the same time, he gives the appropriate facts in great abundance, and is careful to expound the theories to which he is opposed before criticising them. The main results of his own examination of the facts are as follows:—"The male, rather than the female line, was the more primitive" (p. 195). "Sexual considerations were not the basis of marriage" (p. 231). "Marriage had its origin in the necessity of establishing a household" (p. 258). "The household is the source of legislative order, not from its character of blood-relationship, but from its local isolation" (p. 37). "The primitive organisation of the clan is derived from that of the tribe, and not of the family. . . . The character both of the primitive clan and of the tribe is that of free association for mutual protection. . . . The clan differed from the tribe, as a part from the whole. . . . The family, on the other hand, is an altogether independent formation which flourishes within the tribe or clan. The family is not a group which obeys a leader, but a collection of individuals which belong to another man. . . . As soon as the family was enlarged into a group, it exceeded its own limits, and approached more nearly to the organisation of the clan, in proportion to its endeavour to perform the same functions" (pp. 276-7). "The clan, like the family, is a legal group, and the groups were kept together by legal bonds long before the ties of blood had any binding power" (p. 231). "Exogamy prohibits marriage between persons who are so nearly related that they have no legal independence of each other; endogamy prohibits the marriage of persons whose legal status is too remote from each other" (p. 233). "The definition of kinship results from the conflict between clans, and teaches us nothing further with respect to the child's relation to its parents. The choice between the two possible lines is decided by the economic organisation of the community, and by the local grouping of individuals; but there is not the slightest trace of the fact that considerations with respect to the sexual relations had any influence in the matter" (p. 118).

History of German Theology in the Nineteenth Century. By F. Lichtenberger, Dean of the Faculty of Protestant Theology at Paris. Translated and Edited by W. Hastie, B.D., Examiner in Theology, University of Edinburgh. Edinburgh: T. & T. Clark, 1889. Pp. xxxix., 629.

This is a translation, characterised by the usual excellence of Mr. Hastie's work in this kind, of the second (1888) edition of Lichtenberger's *Histoire des idées religieuses en Allemagne depuis le milieu du 18e siècle jusqu'à nos jours* (1873, 3 vols.) "The translation contains the matter of the last two volumes, with the account of the Classical Literature (pp. 242-273) taken from the first volume. The author has furnished many corrections, additions and improvements throughout; the chapter on the Neo-Kantian school is wholly new; and all this matter has been translated from his manuscript. The translator is responsible for limiting the English edition to the period of the Nineteenth Century, and for some minor modifications; but this has been done with the sanction and co-operation of the author, and in such a way that this edition is both unique and complete in itself. The Appendix (pp. 611-624; taken from Dr. Schaff's *Encyclopædia*, with the exception of the note on Prof. Nöldeke, which has been drawn from the new edition of Meyer's *Conversations-Lexicon*) has been added for the sake of completeness, the volume appropriately closing with Dr. Schaff's account of Dorner, the last of the great

systematic theologians. Owing to the new matter furnished by the author, which is of great value, this English edition is much more correct and complete, both in the History and Literature (which are carried down to date) than the French editions." A noteworthy feature of Dr. Lichtenberger's work is that the history of German biblical criticism, which constitutes its substance, is brought into connexion with the history of philosophy and general literature in Germany during the period. "Grounded not only upon a conscientious study of the sources of the subject," the translator remarks, "but upon faithful reference to all that has been lately written worth reading upon it, it is pervaded at the same time by a living sympathy for all that is highest and most enduring in modern theological thought, and its representations and judgments are restrained and guided by an independent critical faculty and an earnest regard for practical Christian truth."

Essays and Addresses. By BERNARD BOSANQUET, M.A., formerly Fellow of University College, Oxford. London: Swan Sonnenschein & Co., 1889. Pp. xi., 199.

Mr. Bosanquet's aim, in this collection of Essays and Addresses, is to put forward an "ideal of modern life" which he calls "Christian Hellenism". In the sixth and seventh papers ("The Kingdom of God on Earth," "How to read the New Testament") he seeks to show that Christianity, properly understood, is simply the faith that nothing but good is a reality (p. 124). "This faith is what people mean by religion." The three more strictly philosophical papers (v. "On the True Conception of Another World," viii. "The Philosophical Importance of a True Theory of Identity," ix. "On the Philosophical Distinction between Knowledge and Opinion")—the first of which was originally published as a preface to the author's translation of a portion of Hegel's *Æsthetik* (see MIND xii. 134, 596), the second as an article in MIND (xiii. 356)—give the author's view of the true nature of the Hegelian philosophy and the German movement of which it formed part. Not only this movement, but Hegel himself in temper and purpose, Mr. Bosanquet holds, was opposed to theological orthodoxy and worked for "an enlarged and purified Hellenism". The remaining papers (i.-iv.) are on social subjects.

Agnostic Faith. Enlarged from a Paper on "Ethical Theism," in the *National Review*, of February, 1884. London: W. Ridgway, 1889. Pp. 58.

The author inquires whether theism is compatible with "intellectual agnosticism," that is, with the conviction that nothing can be known beyond phenomena. The most distinctive point of the paper, as he indicates (p. 15, note), is the historical argument that there is a constant psychological cause—the desire for the realisation of an ethical ideal for its own sake—tending to produce in the European mind a belief in the providential government of the world. To show this he points to the theistic element in the teaching of the later Stoics; the origin of which, he contends, is to be sought in ethical tendencies, and not in the theoretical arguments, such as the argument from design, brought forward in its support. Theism being thus "not only needed, but provided for," the only question is whether the "intellectual agnostic" shall resist or yield to the impulse towards theistic faith. On grounds similar to those set forth in Kant's *Practical Reason*, he concludes that belief in theism is rational as well as natural, but that the theist is not to look for scientific or metaphysical demonstration.

Metaphysica Nova et Vetusta: A Return to Dualism. By Scotus Novanticus. Second Edition, revised and extended. London: Williams & Norgate, 1889. Pp. xiii., 295.

The author (Prof. S. Laurie) here tells us that in his first edition (reviewed in Mind ix. 574) he dealt in a brief, if not perfunctory, way with the mental experiences which precede the emergence of Reason, being anxious to hasten to his main argument. He now speaks more fully of the phenomena of feeling, and has been led, in this connexion, to modify his view as to the source of the consciousness of Being. This affects his language in several chapters, and has made necessary a revised statement of the categories. "The argument of the book remains what it was, but the statement is fuller and largely recast." As to Being, it was declared in the former edition that "it *seems* to be given in sense, whereas it is, on the contrary, a datum of Will or Reason". Now, the true state of the case is held to be that there is, "prior to the emergence of Reason, a *feeling* of 'being' particular and universal, and that Reason emerges for the purpose, *inter alia*, of *affirming* or knowing this". According to the author's earlier view, consciousness of Being is a "new fact of intelligence," and is "the self-sprung issue of the percipient act," "the product of intelligence itself". In his modified view, though the knowledge of Being is not, yet the feeling is, the object of sensation or of "attuition" (*i.e.*, the reflex ordering of sensations prior to the emergence of the "Will-reason" manifested in Perception). The affirmations of "reason activity" are now declared to be all, as immediate feelings, "implicit in the attuent or æsthetic consciousness"; whereas previously it was contended that, in the dialectic percepts or categories of reason, "intelligence has acquired a new fact . . . not at all from without but from within". Consistently with this change of position, the notion of Being is now introduced in part i., where it is expressly described as "felt" prior to its "affirmation" by reason. Two new chapters ("General Statement as to the rise of Reason in the Conscious Subject," "The Primary Laws of Reason in relation to the Form of Percipience") are included in this part. Other new chapters are one on "End," and one on "Being, Universal and Necessary" in part v. Parts vi., vii. and viii. (all greatly extended) are rearranged; the division into chapters being new. The "Parallelism of Sense and Reason" is made the subject of a special chapter of part vi. (on the Categories). The whole essay is by the additions nearly doubled in size.

Perception and Conception, and *Cause and Personality*. Two Essays by E. P. Scrymgour, B.A., Formerly Scholar of Oriel, and Lecturer in King's College, London. London: Harrison & Sons, 1889. Pp. 32.

Conception is here viewed as an endeavour after mutual communication among persons. Nature, or the common object of general experience, it is found, is known only as law; motion and feeling being reducible to thought. Among the elements of immediate Perception, as well as of general Experience, there is not only Personality but Cause. The general result is that the existence of the single object, Nature, "compels us to recognise the existence of One Supreme Person in actual communication with ourselves, as we are with one another".

The Scholastic Idea of the Universal. By the Rev. F. Wilfrid Lescher, O.P. London: M. Gildea, 1889. Pp. 16.

An exposition of the theory of abstraction based by Thomas Aquinas on Aristotle. The Scholastic doctrine is represented as including all

the truth and excluding the errors contained in the opposed philosophical doctrines of later times.

The Psychic Life of Micro-Organisms. A Study in Experimental Psychology by ALFRED BINET. Translated from the French by THOMAS MCCORMACK. With a Preface by the Author written especially for the American Edition. Chicago: The *Open Court* Publishing Company, 1889. Pp. xii., 121.

In putting forth so early after its appearance in French (see MIND xiii. 617) this careful translation of M. Binet's study of the psychic life of micro-organisms, the *Open Court* Publishing Company has shown at once enterprise and discrimination. As the study is of special interest, a brief account may be attempted here of its main gist,—and the more because, in a previous No., it was merely mentioned among the other pieces making up M. Binet's volume of *Etudes de Psychologie expérimentale.* Close observation of unicellular organisms (animal and vegetable), both in the way of original experiment and in following the work done by others, has convinced the author that their "life of relation" does not consist simply in "cellular irritability," but that their movements, be the explanation of this what it may, have every appearance of choice. This he shows especially by descriptions of their phenomena of nutrition and reproduction. The actions of the "autonomous" cells—particularly Infusoria—will bear comparison for complexity, he finds, even with those of the higher Metazoa. Further, the sperm-animalcules of higher plants and animals act like complete organisms, unicellular or multicellular. Darwin's laws of sexual selection "not only apply to individuals; they apply also to sexual elements". The author does not profess to determine whether the various acts of proto-organisms and of spermatozoids, &c., are accompanied by consciousness or not; but he finds that they have at least the unique "physiological," as distinguished from mechanical and chemical, character as much as the actions of the most complex of higher organisms. By generalising the results of experiments on the nuclei of unicellular organisms, he arrives at the result that "the nucleus is in a certain sense the focal seat of life in all its forms". "The psychologist will notice with interest that," when a cell has been enucleated, "the psychical function of the protoplasm outlives the regenerative function for an appreciable length of time; a fragment of a cellule which, having been mutilated by the act of severance, is unable to correct its outward form, or to secrete a fresh cuticle, or to reconstruct its lost organs, is nevertheless still capable of perceiving sensations and of responding thereto by movements." When he speaks of "perceiving sensations" the author does not intend to dogmatise as to the nature of the conscious process. He maintains firmly, however, that all the attempts that have hitherto been made at mechanical or chemical explanation of those phenomena of proto-organisms that look like sensation and voluntary motion are merely verbal. Physiologically, his general conclusion as to these organisms is that their protoplasm—by which is to be understood here "the entire cellular body" inclusive of the nucleus—"embodies in itself all the functions that, in consequence of an ulterior division of labour among the pluricellular organisms, have been assigned to distinct elements".

The Mind of the Child. Part I. The Senses and the Will. Part II. The Development of the Intellect. Observations concerning the Mental Development of the Human Being in the First Years of Life. By

W. Preyer, Professor of Physiology in Jena. Translated from the original German by H. W. Brown, Teacher in the State Normal School at Worcester, Mass. ("The International Education Series." Edited by W. T. Harris, LL.D.) New York: D. Appleton & Co., 1888. Pp. xxvi., 346; xli., 317.

This translation of Preyer's well-known work, *Die Seele des Kindes*, makes vols. vii. and ix. of the "International Education Series," edited by Mr. W. T. Harris, and projected on a very extensive and carefully thought-out plan. The series is to comprise (1) History of Education, (2) Educational Criticism, (3) Systematic Treatises on the Theory of Education, (4) The Art of Education. Several volumes have already appeared, in addition to the present two, and, to judge from the selection made, as well as from the execution of the present translation, the working-out of the plan will be adequate to the expectations raised. As Preyer's work was reviewed at length in Mind vii. 416, it is not necessary to say anything of the contents. Prof. Stanley Hall contributes an "Introduction to the American Edition" (vol. i., pp. xx.-xxv.), and the Editor a general Preface to each volume. The very useful 'Conspectus' drawn up by the translator at the editor's request, and printed in vol. ii. (pp. ix.-xli.), must be specially mentioned. In this the results of the author's observations, arranged by months, are given in chronological order.

L'Esthétique du Mouvement. Par Paul Souriau, Ancien élève de l'Ecole normale supérieure, Agrégé de philosophie, Professeur à la Faculté des Lettres de Lille. Paris: F. Alcan, 1889. Pp. 331.

This book, after an introduction (pp. 1-10) on the "Method and Plan of the Work," is divided into four parts:—(1) "Determination of Movement" (pp. 11-70); (2) "Mechanical Beauty" (pp. 71-161); (3) "Expression of Movement" (pp. 164-220); (4) "Perception of Movement" (pp. 221-323). The author has had in view to make a special question of æsthetics the subject of a psychological, or psychophysical, monograph. The title of his first part indicates that, in his view, the forms of muscular motion, naturally determined, ought to be studied before the forms of motion employed in the arts. He finds that the natural motions of living organisms are grounded at once in the desire to escape pain—since action dismisses both pains in general (physical and mental) and the special pains of repose—and to obtain positive pleasure. The pleasure of activity itself, however, is not the whole of the pleasure that is got even from play. An end beyond the activity itself is always desired in action; and in play this is to a great extent the pleasure in overcoming rivals. An extension of the feeling of emulation is the pride that is felt in overcoming the forces of nature, particularly gravitation, which is specially antipathetic to man. A peculiar sense of freedom accompanies the victory over this force. Opposed to the positive pleasure of motion is the pain of effort. If a movement brings more pleasure on the whole than it costs of pain in effort, it is on the whole agreeable. The aim in natural motion, accordingly, is to minimise effort. "Mechanical beauty" consists in exact adaptation to the end desired, or in "good expenditure of force". Under this head (pt. ii.) the author studies a number of problems of gymnastics, and then the various kinds of animal motion, terrestrial, aquatic and aerial. "Grace," or "the expression of ease in motion," he finds, in part iii., is not to be measured by "economy" only, according to the "law of least effort". "Purely moral ease," as well as "physical ease," is to be taken into account. A greater real expenditure of effort may give the impres-

sion of less effort,—as when the natural signs of fatigue are voluntarily repressed. That is to say, for the explanation of grace first appearances are to be looked at, rather than the real relation of effort to pleasure. For the explanation of the perception of motion (pt. iv.), the author is inclined to lay little stress on any but visual sensations. Notwithstanding their importance in the first three parts of the book, the muscular sensations, he says (p. 224), are for the problem of perception quite secondary. The movements of the eyes are of little or no account for the æsthetics of the line. Perception gives only indications, which it is for reason to interpret. "True beauty" being "in the intelligent adaptation of things to their end," a line seems to us most beautiful when we recognise immediately its justification, the reason why it was drawn so and not otherwise (pp. 294-5).

L'Inconnaissable. Sa Métaphysique — Sa Psychologie. Par E. DE ROBERTY. Paris: F. Alcan, 1889. Pp. 192.

This book contains the application of the author's theory of the relations of science and philosophy, developed in his *L'Ancienne et la Nouvelle Philosophie* (see MIND xii. 620) to the problem of "the unknowable". This conception of modern "Agnosticism"—a term which he uses in a rather wide sense—he finds to be substantially identical with the ultimate conceptions of all metaphysical and religious systems. Following Comte, he rejects the conception on account of the part that metaphysic has in it; holding that the philosophy of the future is to be a synthesis of the sciences.

L'Activité mentale et les Éléments de l'Esprit. Par FR. PAULHAN. Paris: F. Alcan, 1889. Pp. 588.

M. Paulhan's present treatise deals first with the elements of mind (Part i., "The Life of the Psychical Elements," pp. 9-85), then with the laws of their combination (Part ii., "The Laws of Mental Activity," pp. 87-455), and lastly with their synthesis, partial, as in Love and Language, and total, as in the Personality (Part iii., "The Mind," pp. 457-585). His psychology may be described generally as associational, though he is careful to distinguish it from the associationism that accepts "contiguity" and "resemblance" as fundamental laws. The fundamental forms of association, he contends, are "systematic association" and "systematised inhibition" in view of an end; the tendency to combine and separate in view of ends being a property of the psychical elements. The combinations and separations of elements and systems of elements resemble the behaviour of individuals and groups of individuals in society. Thus psychology is brought into relation with sociology as well as with physiology. If physiology provides a basis for psychical phenomena, sociology gives them a sense. To illustrate the formation of a definite personality out of conflicting systems of psychical elements, the author takes the life of Darwin; showing how the scientific tendencies gradually acquired predominance.

HENRI JOLY. *Le Crime.* Etude sociale. Paris: Léopold Cerf, 1888. Pp. x., 392.

M. Joly's very well-written and interesting contribution to the scientific study of crime is to be followed by two other volumes, in the first of which he will deal with the question of how far crime is encouraged by social influences, while in the second he will consider what reforms are required in the manner of its repression. The present volume contains

a description, based on facts, from the most varied sources, of the psychological character of the criminal in relation especially to criminal associations. The view of the criminal as at once forming and formed by the abnormal and "parasitic" society into which he enters, is the distinctive feature of the book, and fully entitles it to the name of a "social study". Further, the author seeks to establish the responsibility of criminals, and at the same time opposes some of the views of the Italian criminological school. The positive part of his argument is, in its main course, as successful as his presentation of the facts. Touching, for example, upon the position of those who would throw the whole responsibility for crime on collective "society," he answers in epigrammatic fashion that it would be strange if everyone was responsible for a crime except the person who has committed it. To show that the criminal ought to be regarded as a responsible being, he carefully distinguishes criminality from insanity. Insanity he defines as a disease that, as it were, breaks the personality. "The lunatic is a man whom a radical change of character has violently separated from his own past." He is separated at the same time, through the incoherence of his thoughts, from all society. The criminal, on the other hand, either lives in apparently normal relations with men in general, or, if he is separated from regular society, lives in irregular society. Thus he is not, like the lunatic, isolated, but is in his way a social being. The polemic against the Italian school, which runs through the book, is directed against the view that the criminal is the atavistic representative of the savage, and against the attempt to distinguish the criminal type by certain innate physical characters. According to M. Joly, crime has its origin, not in the special conditions of savage society,—for the codes of savage tribes severely repress crime as they conceive it,—but in permanent tendencies of human nature, "which has not changed". The criminal is in the beginning "a man like others, or like the great majority of others". It is by a gradual process, consisting in a series of acts of will, or of failures of will, that the character, first of the "accidental," and then of the "habitual" criminal is formed. The anomalies that are seen in convicts are the effect rather than the cause of their abnormal life. If it were otherwise, if the criminal character were innate and recognisable by physical peculiarities, then, M. Joly insists, the criminal would really be irresponsible. A "born criminal" would not be a proper subject for legal punishment, but, as a victim of "mental alienation," would be a subject for medical treatment. There are not in reality many persons who can be described as "doing evil for the mere pleasure of doing evil" (p. 346), but there are a few, and these are to be regarded as "morally insane," and therefore irresponsible. This is the conclusion of an argument which, in detail, contains much useful, if sometimes oversceptical, criticism. The Italian school, as a whole, it may be replied to some of this criticism, is not committed to all the speculative ideas, such as that of the "atavistic" nature of crime, which M. Joly attacks. Nor is he himself so far removed as he thinks from Lombroso's ideas. He complains, for example, that Lombroso reduces all criminals to a single type (p. 62). Yet he has himself said (p. 51) that criminals, from whatever point they start, tend to approach a common type. The difference, then, is not as to whether the criminal type exists, but as to the way in which it has been formed. M. Joly's own views on this point cannot be said to be without the *parti pris* that he thinks he sees in "the new school". Their motive may even be found to some extent in a misunderstanding of the views of that school. The Italian school, he thinks, tends to destroy the responsibility of the criminal by identifying crimin-

ality with insanity. This, as may be seen from the account of the works of Lombroso and Garofalo in MIND xiii. 450, is a misconception of the aims and results of the school. Garofalo defines insanity nearly in the same terms as M. Joly; but, in distinguishing it from criminality, he makes the class of "instinctive criminals," whom M. Joly regards as "morally insane," not subjects for the alienist but the first subjects of penal repression. His application of his definition of insanity seems more consequent than M. Joly's; for in the case of the "born criminal" there can be no question of explaining crime by that kind of modification of the personality and break with the past that both writers regard as characteristic of insanity. Quoting the remark of a member of the "new school," to the effect that criminality is innate as much as genius, M. Joly says that this is in no way to explain, but purely and simply to suppress criminality (pp. 59-60). Is genius, then, we may ask, "suppressed" when it is said to be innate? However the theoretical points in dispute may be decided, it is evident here that the Italian school, as compared with M. Joly, extends, instead of limiting, the range of legal responsibility. For the practical conclusion of the school is that the "instinctive criminal," in whatever way his "anomaly" may be defined or explained, is a proper subject for the penal law.

Introduction à la Sociologie. Par GUILLAUME DE GREEF. Deux Parties. Bruxelles: Gustave Mayolez; Paris: C. Marpon & E. Flammarion, 1886, 1889. Pp. vii., 235; 459.

These two parts of a not yet completed "Introduction to Sociology," it must be allowed apart from any difference of opinion as to the author's detailed applications of his principles, are inspired by a true conception of scientific method. A short account may be given here of his aims and general results. He has sought to continue the work of Comte and Spencer, and at the same time to do justice to the socialists (newer or "scientific" and older or "Utopian"), whose special service has been, he thinks, to compel attention to the dependence of civilisation on economical factors. Viewing society as an organism, he makes a "hierarchical classification" of its "functions". The economical function, he concludes, must be placed at the base, and the political and juridical functions at the summit. The former is the most primitive and "general," and the least intellectual and conscious of social functions. It corresponds to nutrition in the individual organism, while law and politics correspond to self-consciousness. Society acquires a developed self-consciousness from the time when it forms for itself a written historical tradition, corresponding to the psychological function of memory. What distinguishes the social organism from the individual organism and makes it the object of a special science is that the relations between its elements are, consciously or unconsciously, "contractual". The development of the "contractual *régime*" is the exact measure of the progress of civilisation. The political and juridical functions, in the course of progress, lose the arbitrary character they had at first, and become more and more the expression of the *consensus* of the social elements. In the higher social types, "methodical debate and contract tend to rule all relations". A consequence of the fundamental position of economical relations in the hierarchy of functions is that they are the last to be taken account of consciously, and the last to come under intelligent regulation. "The theory so long vigorous of *laissez faire* is only the systematic generalisation of the reflex and the unconscious in economic activity; it is the negation of order and progress, and the affirmation, now already belied by facts, that the primitive forms of

social intelligence are also its definitive forms." One of the author's practical suggestions, insisted on in both parts, is that "the specialisation of functions, liberal as well as manual, must be counterbalanced by generality of instruction."

Ueber die psychologischen Grundlagen der Vergleichung gehobener Gewichte. Von Prof. Dr. G. E. Müller und Dr. Fr. Schumann. (Separat-Abdruck aus dem *Archiv f. d. ges. Phys.* Bd. xlv.) Bonn: Emil Strauss, 1889. Pp. 37-112.

Experimental researches on the comparison of raised weights. According to the authors, the psychological basis of this comparison is not the "feeling of innervation," but the perception of the *effects* of the impulse given, that is, the velocities with which the weights are raised; the weight that rises with the greatest velocity being judged the lightest. Usually, when we compare a series of weights, the successive impulses given in raising them are equal, and the comparative estimates consequently correct. Illusions of comparison arise when, for any reason, a stronger or weaker (instead of an equal) impulse is given in any one of a series of trials. The reason of the illusion is that we have no direct knowledge of the degree of effort put forth, and must judge simply from the velocity. Further, the authors seek to prove that "feelings of innervation" are not only of no use for the psychological explanation of comparative estimates of raised weights, but that generally there is no reason for supposing them to exist.

Die verschiedenartigen Elemente der Schopenhauer'sschen Willenslehre. Von Dr. Ernst Lehmann. Strassburg: Karl J. Trübner, 1889. Pp. ix., 140.

The movement of return to Kant in German philosophy, according to the author, although justified by the failure of the post-Kantian systems as complete theories of the world, has led to neglect of the elements of truth in those systems. He has therefore set himself to examine one of them, *viz.*, Schopenhauer's doctrine of Will, with a view to discovering what it contains of permanent value. His conclusion is that of its three elements—"pantheism," "individualism," and "subjectivism"—the second, though left by Schopenhauer as an "unhewn stone," is that which is destined to form part of the final "system of philosophy," towards which all systems will furnish contributions.

Der Positivismus, nach seiner ursprünglichen Fassung dargestellt und beurteilt. Von Dr. Maximilian Brütt. Hamburg: Lütcke u. Wulff, 1889. Pp. 61.

This essay (which appeared first in the Easter-program of the Johanneum Realgymnasium of Hamburg) is noteworthy for the accuracy with which it expounds the main lines of Comte's original doctrine to the country that has least of all been affected by it. Interesting and apparently complete indication is given, at the beginning, of German thinking that has in any way assumed the name or character of "positive" since Comte's time; though very little of it is directly traceable to Comte's influence. For German understanding of "the positive philosophy" proper, there was need still of even so general an account of it as this essay offers. It is all the more satisfactory that the account has been so intelligently rendered; nor could anybody, in or out of Germany, read without profit the observations, in the way of general criticism, that the author has been able within his limits to append to

his exposition. Though confining this to the *Cours de Philosophie positive*, he does not leave off without adding also some suggestive remarks on the religious transformation which Comte's mind underwent after 1842. In the short introductory section some attempt is made to trace the fortunes of positivism in other countries as well as Germany. Here the author does not sufficiently distinguish between Comtism and the modern movement of Experientialism generally, within which Comtism is no more than an episode. In France it would be difficult to show that the attention now given to physiological psychology is in the least due to "Comte's leading"; and the same remark applies to the later developments of thought in Italy, where the words "positive" and "positivism" are used perhaps more freely than anywhere else. English positivism is not overlooked, but that is all that can be said. There is some want of knowledge or discrimination shown in most of the references to English names: Sir J. Lubbock (for example) is cited with a special emphasis, while nothing is said of the organised band—or rather bands—of professed Comtists who have for so long played no inconsiderable part in English public life. We are all, however, foreigners in turn, and prone enough to like shortcoming. The value and interest of Dr. Brütt's essay remain.

Kants Begründung der Æsthetik. Von HERMANN COHEN, Professor an der Universität Marburg. Berlin: F. Dümmler, 1889. Pp. xii., 433.

This volume, coming after the author's *Theorie der Erfahrung* and *Kants Begründung der Ethik* (see MIND xi. 134 and iii. 153), completes his exposition of the three branches of philosophy—theoretical, practical and æsthetic—on Kantian principles. The systematic exposition of the principles of Æsthetics extends over pages 144-433. This is preceded by a brief general introduction (pp. 1-5) and by longer "historical" and "systematic" introductions. The doctrine of the book is that which has been expounded in the author's former works, *viz.*, that Kant was the first to found a genuine system of philosophy, and that this has to be taken henceforth as the basis for all effective philosophising. In æsthetics, above all, Kant's foundation is indispensable; for previous to the Critical Philosophy there had been, and could have been, no deduction of æsthetics as a branch of philosophy independent of the theoretical and practical branches recognised by Aristotle. The starting-point from which any division of philosophy must be undertaken is, as Kant made evident in his "Copernican" view, consciousness. Now consciousness, in generating its various "contents," takes three different directions. The æsthetic direction is not identical either with the theoretical or the practical direction. Experience or nature—which is the object of theoretical knowledge—and morality are, for the æsthetic consciousness, equally "materials," not regulating but regulated. This was shown by Kant in the third *Kritik*. Before explaining all this in order, Prof. Cohen gives, in his historical introduction (pp. 6-91), a sketch of the way in which preparation was gradually made for the Kantian foundation of æsthetics. After a brief discussion of the theories of beauty put forth by Plato, Aristotle and the Neo-Platonists, the principal modern writers treated of (in more or less detail) are Leibniz, Baumgarten, Winckelmann, Mendelssohn, Lessing and Herder; these being regarded as marking successive stages in the preparation for the definitive constitution of an independent philosophy of beauty. "The *Cogito* of æsthetics," Prof. Cohen finds, is the term "ideal," made current by Winckelmann in a sense identical with the classical (or Platonic) sense of "idea"; for this in æsthetics "signifies the deduction of art

from consciousness". Among Kant's predecessors, Herder took the last step by showing that art is a manifestation of the idea of humanity that expresses it, in its own manner, as adequately as other manifestations; but his theory was only a theory of the arts collectively, not of the consciousness of beauty in its distinction from the consciousness of nature and morality. A definitive theory of beauty was impossible till the proper place had been found for it within the system of the philosophical disciplines, and this was found by no one before Kant.

Die reine Vernunftwissenschaft. Systematische Darstellung von Schellings rationaler oder negativer Philosophie. Von Dr. Philos. KARL GROOS. Heidelberg: G. Weiss, 1889. Pp. x., 190.

A careful exposition of the principles of Schelling's "rational or negative" earlier philosophy, in two parts—i. "Foundation of the science of Pure Reason" (pp. 1-73), ii. "Development of the science of Pure Reason" (pp. 74-190).

Der Mikrokosmos, ein angeblich im 12ten Jahrhundert von dem Cordubenser Josef ibn Zaddik verfasstes philosophisches System, nach seiner Echtheit untersucht. Von Dr. LEOPOLD WEINSBERG. Breslau: W. Koebner, 1888. Pp. 61.

The first part of an investigation of the little known philosophical work, *Mikrokosmos*, usually ascribed to Joseph ibn Zaddik of Cordova, a Jewish philosopher of the 12th century. The author here argues that the *Mikrokosmos* was not written by its reputed author. In a second (not yet published) piece he would prove that it belongs to the 10th century.

Lehrbuch der evangelischen Dogmatik. Von Dr. FRIEDRICH AUG. BERTH. NITZSCH, ord. Professor der Theologie in Kiel. Erste Hälfte. Freiburg i. B.: J. C. B. Mohr (Paul Siebeck), 1889. Pp. xii., 211.

This is a book which, though more specially theological, claims notice for its general philosophical interest. In presenting the theory of "evangelical dogmatics," the author marks out its province in a philosophical spirit, distinguishing religion carefully from æsthetics, metaphysics and ethics, and seeking to determine the kind of proof that can be offered of the truth of a religion. He makes, in particular, a very good defence of the supernaturalist position, from the ground that, while the necessity of a special revelation cannot be proved except to those whose mental attitude is that of "faith," yet metaphysically its possibility can be established. Miracles (which a special revelation involves, being indeed itself miraculous) are certainly interruptions of the ordinary course of nature, but there can be no experimental proof of their impossibility, and for the theist they are interruptions against which there is no general philosophical presumption. From his supernaturalist point of view, the author finds room for historical and anthropological researches into the origin of religions. It is not inconsistent with the truth of a particular religion, he insists, that there should be general psychological causes urging men to religious belief. The subjective cause of religious belief he finds to be the desire for "ethical self-maintenance"—that is, for the attainment of freedom from the constraint of nature by means of a personal relation of dependence on God. All the "positive religions"—and, historically, there are none else—have "myths" or "traditions" (oral or written), rites and worships. Christianity is distinguished from other religions by uniting the three

marks of "universalism" (*i.e.*, the effort after universal prevalence), monotheism, and the "specifically" ethical character. The last character has the pre-eminence; the two former being its conditions. Religion is, first of all, something "objective," an institution. The religious community into which a person is born acts on him before he acts on it. Thus it is impossible for anyone to look at the documents of Christianity, for example, wholly unbiassed by influences from his religious environment. A statement of Christian dogmatics from the point of view of a particular Church must, however, be at the same time the statement of a personal faith; and, ultimately, it is on subjective conviction that articles of faith rest. Among the psychical elements of religious belief, feeling—and not thought or will—is the first in rank. All religions except Christianity (with the preparation for it in Judaism) have been produced simply by the sense of a practical need, in face of the "general revelation" of human life and of the course of nature; Christianity (with the religious institutions that prepared the way for it), by this need together with a divine answer to it in a "special revelation". Apart from "internal experience," the objective relation between God and man that is asserted by the believer is indemonstrable. To those who have no internal experience of the relation, all that can be shown is that the belief in its reality is not contradicted by positive scientific or historical knowledge.

Biblische Psychologie, Biologie und Pädagogik als die Grundlagen christlicher Erziehung und Selbstzucht. Dargestellt von Professor Dr. Karl Fischer, Königl. preuss. Gymnasialdirektor. Gotha: F. A. Perthes, 1889. Pp. xii., 119.

The author—presupposing in each case the unity and sufficiency of the scriptural teaching—gives an account of "Biblical Psychology" (pp. 3-32), "Biblical Biology" (pp. 35-70), and "Biblical Pedagogics" (pp. 73-95). In a final section (pp. 99-119) he briefly sets forth his theory of "Christian education and self-discipline". The first section has most philosophical interest; giving, as it does, a clear and coherent view of the psychology of the Bible. Dr. Fischer's accounts of the relation of soul and spirit (Pneuma), and of the heart as the centre of the inner life —a use of the term which is compared with that of Homer and the tragedians—are especially good. The second section is concerned rather with the application of biological terms, such as "birth" and "growth," to the spiritual life, than with biblical biology in the strict sense in which psychology is spoken of in the first section. Education, according to the view set forth, is divisible into three stages—of nature, of law and of the spirit. The third stage is that of self-discipline exclusively; the first two, in the Christian view of education, are the preparation for this. In the life of the individual as of mankind, the author regards the state of (relative) "natural innocence" as preceding the state of law; and he holds it to be the duty of the educator to prolong the former as much as possible. Teachers will find, in his pedagogic sections, many useful hints. In particular he dwells on the importance of adapting the method of education to the dispositions and capacities of the individual child.

Historia Philosophiae Graecae. Testimonia Auctorum conlegerunt Notisque instruxerunt H. Ritter et L. Preller. Editio septima, quam curaverunt Fr. Schultess et Ed. Wellmann. Gothae: Sumptibus Fridr. Andr. Perthes, 1888. Pp. vi., 598.

Here is completed the new, and not a little modified, edition of *Ritter*

and Preller, of which a first part appeared separately in 1886, and was noted in MIND xii. 310. The important character of the changes so far made by the first of the two co-editors whose names now stand on the title-page, was there indicated. It is not expressly said, but it may perhaps be inferred, that the second two-thirds (or more) of the work, beginning with the Sophists, have been seen to by the other co-editor; to him, certainly, are due the two indexes (pp. 571-98), which, now for the first time appended, greatly add to the practical value of so varied and comprehensive a repertory of philosophical opinion. It was not necessary to the same extent (as in the earlier part) to recast or to enlarge the sections dealing with the great and the later periods of ancient thought; it has even been found possible to provide more room for the new matter by withdrawal of less important passages formerly given. But all through there is evidence of the great care taken to make the book, in the present more advanced state of knowledge, as indispensable to the student of ancient philosophy as it has been found to be ever since it first appeared in 1838.

RECEIVED also:—

J. P. Mahaffy, J. H. Bernard, *Kant's Critical Philosophy for English Readers*, i., Lond., Macmillan, pp. xix., 387.

G. S. Fullerton, *A plain Argument for God*, Philadelphia, J. B. Lippincott, pp. 110.

C. Cutler, *The Beginnings of Ethics*, New York, Armstrong, pp. xiv., 324.

R. Nakashima, *Kant's Doctrine of the "Thing-in-itself,"* New Haven, Conn., Price, Lee & Adkins, pp. 104.

Proceedings of the American Society for Psychical Research, i. 4, Boston, Damrell & Upham, pp. 285-576.

J. B. Saint Hilaire, *La Philosophie dans ses rapports avec les Sciences et la Religion*, Paris, Alcan, pp. 280.

G. Sorel, *Le Procès de Socrate*, Paris, Alcan, pp. 396.

F. Masci, *Psicologia del Comico*, Napoli, Tipografia della Regia Università, pp. 80.

G. Cimbali, *Nicola Spedalieri*, Città di Castello, Tipografia dello Stab. S. Lapi, pp. xc., 368; 296.

F. Tocco, *Le Opere Latine di Giordano Bruno*, Firenze, Le Monnier, pp. 420.

Th. Gomperz, *John Stuart Mill*, Wien, Konegen, pp. 49.

E. v. Hartmann, *Lotze's Philosophie*, Leipzig, Friedrich, pp. xii., 183.

A. Ölzelt-Newin, *Ueber Phantasie-Vorstellungen*, Graz, Leuschner u. Lubensky, pp. 130.

A. Roder, *Der Weg zum Glück*, Leipzig, Spamer, pp. viii., 135.

E. Fischer, *Das alte Testament u. die christliche Sittenlehre*, Gotha, F. A. Perthes, pp. 161.

H. Münsterberg, *Beiträge zur experimentellen Psychologie*, Heft i., Freiburg i. B., J. C. B. Mohr, pp. xii. 188.

J. de Haas, *Inleiding tot de Wijsbegeerte*, Haarlem, J. Enschedé en Zonen, pp. xxxi., 222.

NOTICE will follow.

VII.—FOREIGN PERIODICALS.

American Journal of Psychology.—Vol. ii., No. 2. F. Peterson—Extracts from the Autobiography of a Paranoiac. [The religious paranoiac from whose autobiography a series of exceedingly curious and interesting extracts is here given had real introspective ability and power of expression. He was able to diagnose his disease psychologically with the utmost accuracy, recognised that he was insane, and, even while maintaining the reality of his prophetic mission, admitted the possibility that this was one of his delusions. Other minds, he at length came to believe firmly, could act directly on his own; and he connected this notion in the most ingenious way with the recognition at once of his own insanity and of his power of seizing its symptoms introspectively. His mind, he recognises, has an "impotent and erratically acting part"; it is not "one acting unitedly, and right or wrong as a unit". At the same time, by "philosophising on its own manner of working," it drives the impotent and erratically acting part "into a corner, as it were". Thus it seemed to him a plausible thing that "the insane quality or element" in his brain might be acted on from without, and give itself up to such action, independent of the "thinking will". This action from without, he believed, had from a certain period involved "the will, ideas and acts of more than one individual".] W. H. Burnham—Memory, historically and experimentally considered (ii.). [Continuation of the history of theories of memory.] E. C. Sanford—Personal Equation (ii.). Psychological Literature (The Nervous System; Hypnotism; Experimental; Abnormal; Miscellaneous). Notes.

Revue Philosophique.—An. xiv., No. 4. A. Binet—La vision mentale. [By tactile or muscular excitation of an anæsthetic limb in hysterical subjects, as has been already shown (see *Rev. Phil.* for February), visual and other images can be caused to arise. The conditions of the production of visual phenomena are here specially studied, many interesting results being obtained. It appears that when there is motor paralysis in addition to anæsthesia the form of the anæsthetic limb cannot be voluntarily represented, as it can when there is simple anæsthesia. The images that are produced by excitation of the periphery are perceived just like sensations. They appear in a "field of mental vision" that is not a reproduction of any particular visual field, but is the synthesis of the various fields that have succeeded one another in experience. Attention modifies the position of images in the visual field just as the movements of the eye modify the position of sensations. There are illusions in the perception of the images comparable with illusions of external perception. For the successful production of visual images the subject has to be visually occupied—for example in reading, or with the suggestion of a visual hallucination.] A. Fouillée—Note critique sur la primauté de la raison pratique selon Kant. [All "interests" are not, as is contended by Kant and his followers, reducible to practical interests; nor is there any "primacy" of morals over metaphysics. If there is a primacy at all, it belongs to metaphysics, which alone renders possible the existence of an ethics distinct from natural science.] F. Colonna d'Istria—Le génie et les métamorphoses de la folie. Analyses, &c. Rev. des Périod. Nécrologie:

L. Carrau. No. 5. Ch. Secrétan—Questions sociales. iii. Mon utopie. L. de la Rive—Sur la genèse de la notion d'espace. [A reply to criticisms on the author's *Composition des Sensations, &c.* (see MIND No. 54, p. 297).] E. R. Clay—Le sens commun contre le déterminisme. [Free-will being a datum of common sense and necessary to morality, all that can be required of its defenders is that they should prove it to be a "coherent natural datum". To furnish some considerations towards this proof is the aim of the paper.] Analyses, &c. Correspondance (J.-J. Gourd—Sur la notion de phénomène). Rev. des Périod. Société de Psychologie physiologique (E. Gley—Expérience relative au pouvoir moteur des images ou représentations mentales). No. 6. F. Paulhan—Les formes les plus élevées de l'abstraction (i.). [When psychical elements and tendencies separate into systems that work apart from one another, this is a kind of abstraction. There is abstraction of this kind in the gradual formation of the written alphabet; the separate letters being the last stage in a long process starting with the comparatively undifferentiated picture-writing. "Abstract ideas," representing no particular thing, really exist for those persons who have not the power of visualising distinctly; and even the most clear and lively images are to some extent "abstract," being deprived of some elements of the perceptions they represent. Perception even—as in the case of voices at a distance—may have the character of an abstraction. Abstract ideas are at the same time general, being ideas that represent equally any number of things of the same kind.] L. Marillier—Remarques sur le mécanisme de l'attention. [Attention, which is essentially subordination of all other representations to a particular representation, is always the result of an inhibition; the dominant representation inhibiting its rivals. This action of one representation upon others does not depend on its intensity alone, but on its intensity together with the stability of its union with associated groups of representations, as compared with the intensity of rival representations and the stability of their unions. Translated into physiological terms, this theory is that the cause of attention is in the inhibitory action exercised by one sensory centre on others. The author, accordingly, is unable to accept M. Ribot's theory of the predominance of motor activity in attention; though he admits that "the only representations that can long hold coexistent representations under their dominion are those that are associated with powerful motor tendencies". Usually the muscular movements accompanying attention are an indirect consequence of the excitation of sensory centres. Emotion, like muscular activity, is the result of the action of sensory centres on one another rather than a cause of attention. "Spontaneous" and "voluntary" attention cannot be sharply distinguished. The distinction ought rather to be drawn between "direct" and "indirect" attention; the second being characterised by a feeling of painful effort. This feeling appears when a dominant representation of low intensity borrows all its strength from associated states.] A. Calinon—Les espaces géométriques. [A comparison of Euclidian geometry with the "general geometry" for which Euclidian space is only one among other kinds of space.] Rev. Gén. (M. Vernes—Histoire et philosophie religieuses). Analyses, &c. (B. Bosanquet, *Logic;* D. G. Thompson, *Social Progress*, &c.). Rev. des Périod. Nécrologie: M. Beaussire.

LA CRITIQUE PHILOSOPHIQUE (Nouv. Sér.).—An. v., No. 3. C. Renouvier —Victor Hugo. Le poète et le songeur (iii.). [On Hugo's metrical innovations. Suggestions (but only suggestions) of these are found in

the 17th century classics rather than in the earlier poets in whom it has been customary to look for them. The really characteristic innovations of Victor Hugo do not consist in conscious breakings of the classical scheme of verse, such as "enjambements," but in new rhythms within the verse itself. Essentially these are new, and not revivals of a freedom that had been lost.] H. Dereux—Du fondement de la morale d'après Herbart (iii.). G. Lechalas—La couleur locale dans la littérature dramatique. ["Local colour" in the drama, when it consists in minute antiquarian details of manners, &c., injures æsthetic effect. This is illustrated by comparison of dramas of the classical and romantic periods of French literature.] C. Renouvier—Un poète bouddhiste. F. Pillon—L'ouvrage de Sir J. Lubbock sur l'homme primitif. . . . No. 4. C. Renouvier—Victor Hugo, &c. (iv.). [On Hugo's attitude towards questions such as the relation of art and morals, and on his literary judgments.] L.—Note sur l'acquisition de la notion d'espace à propos d'observations récemment faites par M. Dunan. [Space of three dimensions is a mental construction; perception of distance, as is shown by M. Dunan's recent observations in the *Revue Philosophique*, xiv. 1, being acquired. The construction takes place by the superposition of representative on actual visual sensations. There is no need for the intervention anywhere of tactile and muscular sensations, since the visual sensation is from the first "extensive".] J. Maldidier—Du libre arbitre. Une nouvelle preuve sur une ancienne définition. [No proof of free-will can be satisfactory except the inductive proof that certain acts of will are uncaused. This proof is attained when, on application of Mill's canons of induction to actual volitions, no cause of volition is discovered.] . . . F. Pillon—J. Sully, *Les Illusions des sens et de l'esprit*. Correspondance. No. 5. C. Renouvier—Victor Hugo, &c. (v.). [On the development of the philosophical and political ideas of the poet.] H. Dereux—Du fondement de la morale d'après Herbart (fin). A. Lalande—Pierre Blerzy, ses idées et ses travaux. E. Pécaut—L'Université de Paris et les Jésuites. F. Pillon—Un nouveau manuel d'instruction civique.

Rivista Italiana di Filosofia.—An. iv. 1, No. 2. L. Ferri—Un libro postumo di Bertrando Spaventa: Dottrina della cognizione nell' Hegelianismo. R. Pasquinelli—Le nozioni del diritto e dello stato nella civiltà e nella filosofia dei Greci prima di Socrate (i.). [Describes the general conditions of Greek life to which it was owing that in Greece first arose the definite ideas of law and of the State. These ideas were the expression taken by the consciousness of humanity as a subject distinct from the object, by which the Eastern consciousness was always dominated. In Greece itself the Dorian race represented more especially the objective and the Ionian race the subjective principle.] V. Benini—L'avvenire dell' estetica (ii.). [Having considered (in his former article) the aspects of modern life, and more particularly of modern science, that are hostile to art, the author points to the new scientific and social ideas that have already become or may hereafter become sources of artistic inspiration.] N. Fornelli—Pedagogia: Una proprietà dei classici latini. [The property of the Latin classics (and of the ancient classics generally) which makes them specially good educational instruments is a certain mental concentration, an "intimacy of thought with itself," that finds expression in them. This concentration modern books and languages have to some extent lost through the dispersion of attention on a greater multiplicity of ideas and external things.] Bibliografia, &c. No. 3. R. Benzoni—Rinnovamento della metafisica in Italia. [The result of the renewal of

interest in philosophical questions in Italy during recent years has been that metaphysic is at length completely reinstated. The question now to be considered is as to the true method of approaching it.] L. Credaro —Quale uso Cicerone abbia fatto delle fonti filiosofiche greche. [From a forthcoming work on the Scepticism of the Academics.] R. Pasquinelli —Le nozioni del diritto e dello stato, &c. (ii.). [Though no complete theory of the State was arrived at by the pre-Socratics, they contributed ideas for such a theory. Heraclitus was the first to direct philosophy to the study of moral problems, and Pythagoras was the first to attempt to give ethics a scientific foundation.] Bibliografia, &c.

Rivista di Filosofia Scientifica.—Vol. viii., No. 2. R. Ardigò—Lo sforzo associativo e la dinamica mentale. [The succession of ideas is not wholly explained by the laws of association. Usually the entrance of an idea is followed immediately not by its associated idea but by a certain "commotion" or "uneasiness," upon which the associated idea then follows. This indicates that the causation of the train of thought is not to be looked for in the ideas themselves as such, but in the nervous cerebral motions that accompany both the ideas and the premonitory feelings.] E. Morselli—Nota sul disagio associativo in patologia mentale. [Notes some pathological facts of "uneasiness" preceding association of ideas, by way of supplement to the facts of normal psychology cited in the foregoing paper.] A. de Bella—Il fine ultimo dell' uomo. N. Colajanni—Sulla definizione del delitto secondo gli ultimi studi di sociologia criminale. [From a forthcoming work on Criminal Sociology.] Riv. Anal. Riv. Bib., &c. No. 3. G. Marchesini—Assoluto e relativo. S. F. de Dominicis—Profili del mondo morale. [After describing the evolution of morals as a resultant of "natural evolution" but as having at the same time a value for itself that is not determined simply by its character as a resultant, goes on to protest against the tendency of modern "psychiatry" to neglect the logical and ethical criterion for the discrimination between sanity and insanity, and to lay exclusive stress on deviations (such as illusions of sense) from a certain mean in the performance of physiological functions.] G. Sergi—Psichosi epidemica. [A study of the contagion of mental excitement as illustrated by various religious and political movements due in the first instance to the "suggestions" of individuals, but inexplicable without the supposition of a mental disorder, an "epidemic psychosis," widely diffused in society.] Riv. Gen. (G. Mazzara—Sviluppo della filosofia naturale nella chimica). Riv. Anal. Riv. Bib., &c. No. 4. T. Vignoli—La scuola: Studio sociologico. [Traces the history of the school, and finds that the form into which it tends naturally to evolve is that of "the free and laic school".] M. Pilo—Il problema estetico. [From a forthcoming work on Æsthetics.] A. de Bella—Note sulla degenerazione nella storia. [From a forthcoming sociological work.] Questioni del Giorno (B. Meilach-Danielli—Pietro Lavroff: Biografia di un filosofo russo). Riv. Bib., &c.

Zeitschrift für Philosophie, &c.—Bd. xcv., Heft. 1. R. Seydel—Der Schlüssel zum objectiven Erkennen. [The distinction between "content" and "function" is "the key to objective knowledge". Objective truth is in the content of our thoughts; but this content is to be distinguished from the function, or psychological form of existence, to which it is bound.] L. Fischer—Zu dem R. Seydelschen Aufsatze: "Kants synthetische Urtheile a priori, etc.". R. Seydel—Erwiderung. H. Spencer—Kant's Ethik (übers. B. Vetter). E. v. Hartmann—

Wundt's *Ethik*. E. Zöller—Schwedische Schriften über Lotze. Recensionen.

Philosophische Monatshefte.—Bd. xxv., Heft 5, 6. F. Staudinger—Der Widerspruch in theoretischer und praktischer Bedeutung (i.). [The contradictions of subjective experience are the starting-point for arriving at a system of objective knowledge and of ethics. Contradictions in theory or practice are analogous to disturbances of the equilibrium of organic functions. Unity is restored when contradictions are solved. In ethics the unity that has to be established consists in a harmony of ends. In theory of knowledge we have to proceed from the order of thought to an objective order that makes the subjective unity of consciousness possible.] Th. Lipps—Psychologie der Komik (v.). Recensionen. Litteraturbericht, &c. Heft 7, 8. F. Staudinger—Der Widerspruch, &c. (Schluss). Th. Lipps—Psychologie der Komik (Schluss). [Transition is here made to the æsthetics, as distinguished from the psychology, of the comic.] Recensionen. Litteraturbericht, &c.

Vierteljahrsschrift für wissenschaftliche Philosophie.—Bd. xiii., Heft 2. G. Norrie—Dr. med. Valdemar Krenchel's Grundzüge einer mechanischen Theorie der Lichtempfindung. Th. Lipps—Bemerkungen zur Theorie der Gefühle. [Feelings of pleasure and pain differ from sensations as belonging to the inmost core of subjectivity while the latter are objective. Accordingly they are unlocalised and have no special nervous process at their base. We tend to regard them as localised along with the sensations to which they are attached; but they are separable in thought from these. The origin of the notion that there is a special nervous process at the base of feeling is in the ambiguity of the word 'pain,' which is applied both to the objective sensation that accompanies the feeling of pain and to the feeling itself, which belongs to the unlocalised and unextended Ego. Since there is no peculiarity in the feeling itself by which we can distinguish "sensible feelings," that is, the feelings of pleasure or pain attached to sensations, from others, a common cause of all pleasures and of all pains is to be looked for. The ground of pleasure, wherever it can be ascertained, is found to be "support," that of pain "contradiction," of sensations, thoughts, &c., on the part of the soul, that is, of the mental organisation or constitution. Distinguishable from pleasure or pain, though in reality only another side of the same feeling, is the feeling of conation, which is the object of immediate experience that gives its sense to the conception of "will". The activity that is accompanied by the feeling of will is itself simply an activity of associative connexion that only reaches its end after overcoming an obstacle. What are called the effects of will are really the effects of the associative connexion, just as the "effects of heat" are the effects of the objective process that is accompanied by the feeling of heat. Like the feelings of pain and pleasure, the feeling of conation belongs wholly to the subject and not at all to the external world. Self-feeling, consisting of feelings of conation and of feelings of pleasure and pain, is that to which everything else that comes to be called Ego or is brought into relation with the Ego is suspended.] A. Marty—Ueber Sprachreflex, Nativismus und absichtliche Sprachbildung (iv.). F. Staudinger—Identität u. Apriori (ii.). Anzeige. Selbstanzeige, &c.

Archiv für Geschichte der Philosophie.—Bd. ii., Heft 3. W. Dilthey—Archive der Litteratur in ihrer Bedeutung für das Studium der Geschichte der Philosophie. [Points out the importance of un

published manuscripts for the history of philosophy, and urges that they should be sought out and made accessible to students.] V. Brochard—Protagoras et Démocrite. [The doctrine of Protagoras was not a pure "subjectivism," but "an objective and realistic relativism". He held that things are as they appear; and, holding with Heraclitus that appearances are contrary to one another, he proclaimed the equal objective reality of contraries. The first subjectivist philosopher was Democritus, who was later than Protagoras, and whose doctrine marks an advance on that of Protagoras. Separating for the first time the representation from the reality, he was able to declare sense illusory without denying the possibility of scientific truth. Democritus and Plato, opposed as their dogmatisms were, pursued the same end,—to maintain against the sophist the rights of science.] P. Tannery—Sur un fragment de Philolaos. [In a fragment of Philolaus given by Proclus, in which certain deities are assigned to certain geometrical figures, each god or goddess corresponds to a particular grouping of the signs of the Zodiac.] O. Kern—Κρατῆρες des Orpheus. P. Natorp—Ueber Grundabsicht und Entstehungszeit von Platons Gorgias. H. Siebeck—Zur Psychologie der Scholastik. [On the optical treatise of Alhacen, translated from the Arabic by Witelo about 1269.] L. Stein—Der Humanist Theodor Gaza als Philosoph. [Theodore Gaza, the grammarian and interpreter of Aristotle, is of much more philosophical importance than has usually been supposed. He alone, in the 15th century, in spite of his ecclesiastical position, championed an Aristotelianism free from all theological admixture. The writer proposes to publish and analyse his philosophical writings, none of which have yet been printed. The present (preliminary) article is biographical.] K. Lasswitz—Ueber Gassendi's Atomistik. G. Itelson—Leibniz und Montaigne. Jahresbericht (L. Stein, P. Tannery, I. Bywater). Neueste Erscheinungen.

Philosophisches Jahrbuch.—Jahrgang ii., Heft 1. J. Pohle—Der neueste Sturmlauf gegen die heidnischen Classiker u. gegen die humanistiche Bildung überhaupt (i.). [Defends the traditional classical training against those who would substitute for it a training in natural science.] N. Kaufmann—Die Erkenntnisslehre des hl. Thomas von Aquin u. ihre Bedeutung in der Gegenwart. [The epistemological doctrine of Aquinas is a moderate Realism. Its significance for the present time consists in its position between the opposite errors of Sensationalism, which is extremely nominalistic, and Hegelian or Rosminian Idealism, which is extremely realistic.] J. A. Endres—Ueber den Ursprung und die Entwicklung der scholastischen Lehrmethode. [The peculiarity of the Scholastic method of exposition consists in its setting in face of one another opposing propositions of which it seeks the reconciliation. The origin of this method is in the effort, characteristic of the mediæval mind, to systematise the doctrines of patristic philosophy. The first adequate example of the method is Abelard's *Sic et Non*, which afterwards served as a model to the Scholastics. Abelard's adoption of it was not due to any suggestion from what he knew of Aristotle, but had its source in the special circumstances of the time, just as Plato's use of the dialogue and the use of the geometrical method in the Cartesian period sprang from other contemporary conditions. In spite of the Aristotelian basis of 13th century Scholasticism, therefore, the origin and the first development of Scholastic method are not to be traced to the influence of Aristotle.] M. Sierp—Pascals Stellung zum Skepticismus (i.). Recensionen und Referate. Zeitschriftenschau. Miscellen und Nachrichten.

VIII.—NOTES.

PROF. DELBOEUF ON HYPNOTISM AND THE NANCY SCHOOL.

Under a title which seems rather antiquated for his doctrine,[1] Prof. Delboeuf has just added a new piece to his remarkable series of studies in hypnotism (see MIND xii. 304, xiii. 148, 617). It is impossible to keep pace with the flood of publications on the subject now pouring from the continental press, but, where so much is of no particular value, it is all the more important to draw attention to the work of one who not only has no ordinary success as an operator but brings trained scientific faculty and, what is more, the special knowledge of a psychological expert to the interpretation of his facts. His present study, as appears in the sub-title, is counterpiece to the earlier one in which he recorded the impressions made upon him by a visit to the Paris Salpétrière. He has more and more come to see that, in the conflict waged between the school of M. Charcot on the one hand and the Nancy school on the other, the truth, as it has been evinced for him by his own researches, lies with the latter. A visit paid to Nancy last year brought him into close personal relations with the chief workers there, and he now takes occasion from what he saw of their procedure to set forth with added emphasis or new development the main conclusions on hypnotism to which he has himself thus far been brought. Very bright and interesting is the sketch given of MM. Liébeault, Bernheim, Liégeois, and of the therapeutic work maintained at Nancy ever since it was first started by M. Liébeault many years ago. As for their theorising, it has on the whole been marked by great sobriety, though in the father of the school a certain mystical strain is rather evident. Their main positions—(1) that the hypnotic trance is not to be described as a morbid condition; (2) that the phenomena arising in it are due to suggestion, or, in other words, have a properly psychological origin—have the greater authority because founded upon an experience so much more prolonged and varied than anything that Paris can show.

The following are the chief points which Prof. Delboeuf himself seeks to make. (1) All (or almost all) the Salpétrière phenomena are obtainable with non-hysterical 'subjects,' and, when more carefully controlled and observed than at Paris, are seen to be due to suggestion, not to any physical agency. (2) It is a mistake (of the Nancy school) to suppose that there is no memory on waking of what went on in the trance; in reality it is just as with dreams, which are sometimes remembered and, even when at first forgotten, may come to be revived by appropriate suggestions. (3) Hypnotic sleep does not differ from ordinary sleep except in the circumstance that at least one of the senses remains completely open to a certain class of impressions (*e.g.*, the voice of the hypnotiser). (4) We all of us each day pass, between waking and sleeping, through a state of maximum "suggestibility," and the hypnotic art is a way of bringing on this state at other times, and especially of prolonging and maintaining it; intense shocks received (as they are most apt to be) at the moment of wakening or of going to sleep are,

[1] *Le Magnétisme animal:* A propos d'une Visite à l'Ecole de Nancy. Par J. DELBOEUF, professeur à l'université de Liège. Paris: F. Alcan, 1889. Pp. 128.

therefore, open to reduction or obliteration by counter-suggestion in the hypnotic state artificially induced. (5) As to criminal possibilities in hypnotism (insisted upon of late not only by many who know nothing of it, but also by an authority like M. Liégeois), though there is real danger that a 'subject' may be made to suffer injury, all the evidence points to the impossibility of bringing anyone to the doing of wrong, in the state of trance—or at least such wrong as the 'subject' never *dreams* of doing. These are but a selection of the points of interest in Prof. Delboeuf's latest study. It will be noticed into how close relation he seeks to bring hypnotism with natural sleep: everything that the author of *Le Sommeil et les Rêves* (MIND xii. 115) has to urge upon this head deserves special attention. As to point (4) noted above, common experience seems hardly to bear it out; but it will be prudent to wait till Prof. Delboeuf states his case at greater length, as he gives hope of his doing.

EDITOR.

An International Congress of Physiological Psychology will be held, in connexion with the Paris Exhibition, from the 5th to the 10th of August, under the presidency of M. Charcot. The main heads of the program are—Muscular Sense; the part played by Movements in the formation of Images; whether Attention is always determined by Emotion; Statistics of Hallucinations; the Appetites of Idiots and Imbeciles; whether in Lunatics there are Motor Impulses apart from Images and Ideas; Mental Poisons; Heredity; Hypnotism.

The death-record this quarter is heavy. F. C. Donders, the famous physiological professor at Utrecht, who has left his mark on the scientific theory of vision, died on 24th March, having nearly completed his 71st year. On 25th March, at Mayence, where he was a gymnasium-teacher, died L. Noiré, aged 60: his speculations on the origin of language, beginning with his *Ursprung der Sprache* (1877), were first made known in England by his friend and admirer Prof. Max Müller, who has also sought to give him vogue otherwise as a philosophical authority. France has lost L. Carrau (at end of March) and E. Beaussire (on 8th May), both of them active in Paris as philosophical teachers and known more widely by their writings (see MIND xi. 273, xiii. 300, 615). At home has passed away (May 16) Prof. H. W. Chandler, who in 1867 succeeded Mansel in the Waynflete chair of moral philosophy at Oxford, and was known there, if not much to the outer world, as the most accomplished of Aristotelian scholars. Finally, an American correspondent sends the following:—"The fact may not have come to your notice that on the 23d of March, occurred the death of Prof. George S. Morris of the University of Michigan, well known to be one of the leading spirits among the idealists of this not altogether unidealistic land. Unquestionably his death is a great misfortune for philosophical studies in this country, as he was a most enthusiastic student and lecturer, and, though comparatively a newcomer among teachers of philosophy, he had awakened and inspired by personal contact a goodly number of earnest and able young men and young women to the special pursuit of the study of philosophy in the pure historical sense, and had stirred many more by his vigorous writings. Through his translation of Ueberweg's *History of Philosophy* (1871-73), his several books and a few articles, his lectureship at the Johns Hopkins University (1878-1885), his professorship in the University of Michigan (1881-1889), and his editorship of Griggs's "German Philosophical Classics for English Readers and Students" (7 vols.), he

had gained a most enviable name and influence among philosophical students, writers and teachers. Best of all, he was a worker, and, enthusiastic and splendidly equipped as he was in every regard, promised very much for the future. Personally he was a most lovable man. There is every reason to regret deeply his untimely death at the age of 48."

Another death also should be mentioned here. Laura Bridgman, the historic blind-deaf-mute so often referred to in these pages, died on 24th May, at Boston, U.S.A., where (in the Perkins Institution) she has had her home for over half a century. She had reached the age of 60.

Dr. E. B. Tylor, appointed Gifford Lecturer in Natural Theology at Aberdeen some time later than his fellows at the other Scottish Universities (MIND xiii. 318), does not begin duty till next winter. Mr. J. Cook Wilson, of Oriel College, has been elected to the Wykeham chair of Logic at Oxford. At Columbia College, New York, the best-endowed philosophical chair in America, vacated through ill-health by Prof. A. Alexander after eight years' tenure, has just passed to Dr. N. M. Butler, who has been assistant professor there, and who is also president of the N.Y. College for the Training of Teachers; Mr. J. H. Hyslop at the same time joins Columbia College.

THE ARISTOTELIAN SOCIETY FOR THE SYSTEMATIC STUDY OF PHILOSOPHY (22 Albemarle Street, W.).—Proceedings since last record:—March 11, Symposium "What takes place in Voluntary Action?" Messrs. B. Bosanquet, P. Daphne, J. S. Mann, and A. M. Ogilvie; March 25, Mr. B. Bosanquet, "The part played by Æsthetic in the growth of Modern Philosophy"; April 8, Mr. F. C. Conybeare, "Proclus and the close of Greek Philosophy"; April 29, Rev. Canon Aubrey L. Moore, "Some curious Parellels between Greek and Chinese Thought"; May 13, Mr. A. M. Ogilvie, "The Psychology of Sport and Play"; May 27, Mr. G. F. Stout, "The Development of the distinction between the Physical and Mental, considered from a psychological point of view".

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PSYCHOLOGY AND PHILOSOPHY.

I.—SOME FUNDAMENTAL ETHICAL CONTROVERSIES.

By Professor H. Sidgwick.

The discussion that follows seems to require a few words of excuse and explanation, on account of the triteness of the topics discussed, and the difficulty of saying anything substantially new upon them. So long as ethical thought is alive and disagreement continues on fundamental points, controversy must continue; at the same time I have no sure hope that the present profound disagreements are likely to be terminated, as similar disputes have been terminated in the progress of the exact sciences, by the rational confutation of all divergent opinions except one. Attempts at such confutation can only take one of two forms: (1) demonstration of inconsistency in the system assailed, and (2) demonstration of paradox—*i.e.*, of conflict with the common sense of mankind. The former method is often recognised as completely effective against certain parts of a system as expounded; but it is always difficult to feel sure that these parts are really vital, and that the substance of the doctrine assailed may not be so remodelled as to avoid the demonstrated inconsistency: nor may we even say that only one internally consistent system is possible to a reason-

able man;—rather we seem able to conceive an indefinite number of internally consistent systems, and though, doubtless, all or most of these if fully worked out would involve paradoxical elements, we can rarely be sure that the paradoxes will be completely deterrent. For (2) demonstration of paradox cannot be formally cogent, unless the moralist convicted of paradox has expressly accepted Common Sense as a decisive authority; and even in this case it often cannot be made completely cogent, owing to the amount of vagueness and ambiguity, of division and disagreement, which we find in the moral common sense of any one social group in any one age, and the amount of change that we find as we pass from age to age and from group to group. For myself, I feel bound to say that though I have always been anxious to ascertain and disposed to respect the verdict of Common Sense in any ethical dispute, I cannot profess to regard it as final and indisputable: I cannot profess to hold that it is impossible for me ever to be right on an ethical point on which an overwhelming majority is clearly opposed to me. And as I cannot admit this myself, I cannot expect any similar admission from opponents. Accordingly I should like it to be understood that in what follows confutation of opponents is not aimed at; in fact, it is by the definite exclusion of this aim that I hope to impart a certain novelty of treatment to my familiar matter. What is aimed at is merely a diminution of the amount of misunderstanding which philosophical controversy—especially on fundamental points—has always involved. Probably, complete mutual understanding will never be reached until we have reached complete confutation of fundamental errors; but it seems easier to approximate to the former result, since we have all experienced the interest and satisfaction of comprehending an intellectual position with which we are yet obliged altogether to disagree.

I desire, therefore, to promote mutual understanding on some fundamental points of ethical controversy: by further explaining my own view where my original exposition of it (in my *Methods of Ethics*) appears from criticism to have been incomplete; and by pointing out where and why some further explanation of my critics' views is needed to enable me to understand them.

I. I may begin by saying that no other aim but this of removing misunderstandings could have induced me to recur to the ancient problem of the Freedom of the Will. I have no pretension of providing a theoretical solution of this problem; and, indeed, the first misunderstanding which

I wish to remove is one which attributes to me such a pretention. A very courteous criticism of what I have previously written on this subject (in bk. i., c. 5, of my *Methods of Ethics*) which I find in Mr. Fowler's *Principles of Morals*, pt. ii.,[1] concludes with this sentence: "I venture to suggest that the difficulty raised by this antinomy is not really resolved in either direction by Professor Sidgwick's argument". This is quite true; but my argument, as I conceived it, did not aim—as Mr. Fowler seems to suppose—at a *theoretical* solution of the difficulty caused by the conflict between what I called the "formidable array of cumulative evidence offered for Determinism" and the Libertarian "affirmation of consciousness in the moment of deliberate action": it aimed merely at a *practical* solution of the difficulty, by showing that for purposes of practical reasoning the two opposed arguments cannot really collide. I tried to show that, on the one hand, so far as we reason to any definite conclusions concerning the *future* actions of ourselves or other human beings, we inevitably consider them as determined by unvarying laws: if they are not completely so determined—and we cannot avoid concluding that they are not, if we accept the Libertarian proposition—then our reasoning is *pro tanto* liable to error; but the general recognition of this possibility of error can introduce no practical difference in the conclusions of such reasonings; since the most thorough-going belief in the freedom of human wills cannot be made the basis of any definite forecast as to the effects of the volitions assumed to be free. On the other hand, I tried to make clear that when we are ascertaining—according to any ethical principles and method—what choice it is reasonable to make between two alternatives of *present* conduct, it is as impossible for us to use Determinist conceptions as it is impossible to use Libertarian conceptions when we are endeavouring to forecast *future* conduct. Now, if both parts of this argument are accepted, I submit that a practical escape from the perplexities caused by the Free Will controversy—perplexities which many thoughtful persons have regarded as most gravely practical—has been completely provided: a theoretical solution has certainly not been provided, but neither has it been attempted.

I proceed to ask, then, if either part of my argument, as above summarised, is disputed. I do not find either in Mr. Fowler's, or in any other, recent discussion of the question, any reasoning directed against my contention as

[1] Ch. ix., pp. 330-1.

to the inapplicability of Libertarian conceptions in rational forecasts of the future conduct of human beings; nor do I find that Mr. Fowler at least definitely denies what I have said as to the irresistible affirmation of Freedom in the moment of deliberate action. But he seems to hold that this affirmation is effectively neutralised by the "counter-argument" that "we are not sufficiently acquainted with all the springs of action and their relative force," so that "we may fairly argue that, if our experience were wider still, and we were fully acquainted with all the antecedent circumstances, every volition might be fully accounted for". And this, or something like this, seems to be the answer that Determinists generally are disposed to give when Libertarians urge the "immediate affirmation of consciousness".

Now, I contend that the completest acceptance of the hypothetical conclusion of this counter-argument can have no practical effect, unless it leads men to abstain from the effort to act rationally, and consciously surrender themselves to the play of mere impulse; and I do not think that any Determinist will argue that his conclusion either ought to have, or does ordinarily have, this paralysing effect on the practical reason. If it does not have this effect on me, if I still attempt to act rationally, then inevitably—whatever may be the ethical principles on which I attempt to act—I cannot fail to experience the old eternal conflict between the judgment of reason and irrational impulse. And, whenever I experience this conflict, I cannot see how my actual consciousness of choosing between alternatives of conduct, one of which I conceive to be right or reasonable, can be affected by my admission of the hypothetical proposition that, "if I were fully acquainted with all the antecedent circumstances of the volition that I am about to make, it might be fully accounted for". It still remains impossible for me to regard the absence of adequate motive to do what I judge to be reasonable as a rational ground for not choosing to do it; and it remains impossible for me to think that I cannot now choose to do what I conceive to be reasonable,—supposing that there is no obstacle to my doing it except absence of adequate motive,—however strong may be my inclination to act unreasonably, and however uniformly I may have yielded to such inclinations in the past. I do not, of course, deny that the *difficulty* of resisting vicious inclination is made greater by previous surrenders to inclination; but I cannot conceive this difficulty becoming impossibility, so long as the consciousness of voluntary choice remains. I am quite willing to admit that this con-

viction *may* be illusory: that if I knew my own nature I *might* see it to be predetermined that, being so constituted and in such circumstances, I should act on the occasion in question contrary to my rational judgment. But I cannot conceive myself seeing this, without at the same time conceiving my whole conception of what I now call "my" action fundamentally altered: I cannot conceive that if I contemplated the actions of my organism in this light I should refer them to my "self"—*i.e.*, to the conscious mind so contemplating—in the sense in which I now refer them. The admission, therefore, that my conviction of the possibility of my acting in accordance with reason *may* be illusory is an admission that can have no practical effect: I must use, in thinking about action, the only conception of human volition that is now possible to me; and this is strictly incompatible with the conception of my choice between rational judgment and irrational inclination as predetermined.

I do not quite know how far Determinists at the present day would deny the guarded statement that I have just given of the inevitableness of Libertarian conceptions. If they do not deny it, I think that most Determinists will probably admit that my *theoretical* suspension of judgment on the question of Free Will does not prevent me from attaining a complete *practical* solution of the difficulties of the question.

But it appears that Libertarians, if I may take Dr. Martineau as a specimen, are not willing to admit this; in fact, Dr. Martineau seems to regard the position that I take up as more untenable than that of a thorough-going Determinist.

"I can," he says, "understand and intellectually respect the thorough-going determinist intensely possessed by the conception of causality that rules through all the natural sciences, and never doubting that, as a 'universal postulate,' it must be driven perforce through the most refractory phenomena of human experience. I can understand the emphatic claim of the reflective moralist for the exemption of his territory from a law which admits of no alternative. . . . But I cannot understand the intermediate mood which imagines the chasm of difference reducible to a step which, for all practical purposes, it is not worth while to bridge over or fill up." Dr. Martineau can "grant, indeed, that in drawing up an objective code of actions to be prohibited and required the two doctrines would not widely diverge in their results . . . but," he thinks, it is inconceivable that the acceptance of Determinism should not make a fundamental "difference of the dynamics of the moral life". "On such a ground," it seems to him, "you may build your mill of social ethics, with all its chambers neat and adequate, and its great wheel expecting to move; but you have turned aside the stream on which it

all depends; the waters are elsewhere; and your structure stands dead and silent on the bank."[1]

I understand the meaning of this eloquent passage to be that the conception of the Freedom of the Will supplies a moral motive to action which is necessarily withdrawn by the adoption of the Determinist conclusion: I do not, however, obtain from it any clear idea of the precise nature of the motive that is supposed to be supplied. As I have already said, I find the consciousness of freedom, in a certain sense, inseparable from the only conception of human volition that I am now able to form; and it is possible that Dr. Martineau may mean no more than this. But I find no practical difficulty in acting with the consciousness of free choice as above defined, while, at the same time, always reasoning on a purely Determinist basis in forecasting the future, or explaining the past actions of myself and others, and while also recognising that a reconciliation of these distinct intellectual attitudes is a speculative *desideratum;* and I do not see in what way a speculative conviction of the Freedom of the Will would either directly strengthen the motives to do what I judge to be, on the whole, reasonable, or weaken the force of the impulses that conflict with rational judgment;—unless it be through a certain process of theological reasoning which I do not regard as conclusive, and to which Dr. Martineau does not expressly refer.

I cannot see that the speculative belief in Free Will would alter my view of ultimate ends. If Happiness, whether private or general, be the ultimate end of action on a Libertarian view, it must be equally so on a Determinist view; and if Perfection is in itself admirable and desirable, it surely remains equally so whether any individual's approximation to it is entirely determined by inherited nature and external influences or not:—except so far as the notion of Perfection includes that of Free Will. Now Free Will is obviously not included in our common notions of physical and intellectual perfection; and it seems to me also not to be included in the common notions of the excellences of character which we call virtues: the manifestations of courage, temperance and justice do not become less admirable because we can trace their antecedents in a happy balance of inherited dispositions developed by a careful education.

Again, I do not see how the affirmation or negation of Free Will can reasonably affect our practical conclusions as to

[1] *Types of Ethical Theory* (2nd ed.), vol. ii., p. 42.

the fittest means for the attainment of any of these ultimate ends, so far as the connexion between means and end is believed to exist on empirical or other scientific grounds. I do not see how an act now deliberated on can be scientifically known to be less or more a means to any ulterior end ,because it is predetermined ; and, so far as in considering how we ought to act in any case we have to calculate the probable future actions of others and also of ourselves, I have already shown that our decision on the question of Free Will cannot practically affect such calculations. I admit, however, that the case is conceivably altered when we introduce theological considerations. According to the received view of the moral government of the world, the performance of Duty is the best means of attaining the agent's happiness largely through its expected consequences in another world in which virtue will be rewarded and vice punished by God: if, therefore, the belief in the existence of God and the immortality of the soul is held to depend on the assumption of Free Will, this latter becomes obviously of fundamental ethical importance. It is possible that this is what is really meant by Dr. Martineau in the passage before quoted ; and if so, I cannot but admit that the denial of Free Will removes a rational motive to the performance of duty, so far as the reasonableness of duty is rested on the particular theological argument just mentioned. I must, however, point out that the assumption of Free Will cannot be said to be generally regarded as indispensable to the establishment of the belief in the moral government of the world, since an important section of theologians who have held this belief with most intense conviction have been Determinists.

I do not, however, wish to enter upon the theological argument at the threshold of which I have now arrived. If it is admitted (1) that the assumption of the Freedom of the Will is in a certain sense inevitable to anyone exercising rational choice, and (2) that the affirmation of Free Will as a point of speculative doctrine is only important ethically so far as it is implicated in a certain theological argument, then the misunderstandings which I am concerned to remove will have vanished.

II. In speaking of the notion of "free" choice as inseparable from the only conception of conscious action that experience enables me to form, I have restricted my consideration to the choice between the alternatives of "rational" and "irrational" conduct. It is, I conceive, this alone that concerns us, from an ethical point of view; not the possibility of merely indeterminate choice,—of what Green calls an

"arbitrary freak of unmotived willing,"—but the possibility of acting in accordance with our rational judgment when it conflicts with irrational impulses. The phrase just used affords a transition to a second fundamental misunderstanding, which I am anxious, if possible, to clear up;—all the more, because it is a misunderstanding among persons who are in general agreement as to the right method of dealing with particular ethical questions. According to my view, what I have just spoken of as a "rational judgment" on a practical question is normally expressed in the form "X is right" or "X ought to be done"; and if the judgment be attained by deduction from a principle, such a principle is always capable of being expressed as a proposition in which the word "right" or "ought" occurs. The notion that these words have in common is, therefore, the same in different ethical systems: different systems give different answers to the fundamental question, "what is right," but not, therefore, a different meaning to the question. The Utilitarian, in my view, affirms that "what is right" in any particular case is what is most conducive to the general happiness; but he does not—or ought not to—mean by the word "right" anything different from what an anti-utilitarian moralist would mean by it. Again, according to me, this fundamental notion is ultimate and unanalysable: in saying which I do not mean to affirm that it belongs to the "original constitution of the mind," and is not the result of a process of development: that is a question of Psychology—or rather Psychogony—with which I am not concerned: I merely mean that as I now find it in my thought I cannot resolve it into, or explain it by, any more elementary notions. I regard it as co-ordinate with the notion expressed by the word "is" or "exists". Possibly these and other fundamental notions may, in the progress of philosophy, prove capable of being arranged in some system of rational evolution; but I hold that no such system has as yet been constructed and that, therefore, the notions are now and for us ultimate.

I find, however, that these opinions do not seem to be shared by other writers who agree with me in adopting—with or without reserves and qualifications—the Utilitarian standard. But I find a great difficulty in making out exactly where the difference lies. Even in the case of Bentham, who uniformly aims at the most uncompromising clearness of exposition, I nevertheless find this difficulty. For instance, there is a passage in his *Principles of Morals and Legislation* (ch. i., § 10) in which he expressly controverts the opinion that I have just expressed as to the identity

of the meaning of the terms "right" and "ought" in different ethical systems. He says:—

"Of an action that is conformable to the principle of utility"—*i.e.*, which has "a tendency to augment the happiness of the community greater than any it has to diminish it"—"one may always say either that it is one that ought to be done, or at least that it is not one that ought not to be done. One may also say that it is right it should be done, or at least that it is not wrong it should be done; that it is a right action, at least that it is not a wrong action. When thus interpreted, the words *ought* and *right* and *wrong* and others of that stamp have a meaning; *when otherwise, they have none.*"[1]

This seems unmistakable; and we naturally infer that whenever Bentham is found using the words "ought and right, and others of that stamp," he will mean by them "what tends to augment the general happiness". But how then are we to explain the proposition found in a note to the same chapter (§ 1, added July, 1822)—*viz.*, that his fundamental principle "states the greatest happiness of all those whose interest is in question as being the right and proper, and only right and proper, end of human action"? We cannot surely suppose that he merely means to affirm that it is conducive to general happiness to take general happiness as the sole end of action. If not, what meaning can we give to the term in the proposition just quoted, except precisely the same meaning that it would have if used in a denial of this principle by an anti-utilitarian moralist?

Bentham unfortunately cannot answer; and I do not quite know who at the present day will answer for him. I therefore turn to Mr. Fowler, whose view—though it differs importantly from Bentham's—I have a somewhat similar difficulty in understanding. Mr. Fowler expressly states that he "does not agree" with me "in regarding as ultimate and unanalysable" the idea expressed by the word "right" or "ought". His reasons for disagreeing are, as I gather, given in the following passage: "We maintain (1) that the idea of right is relative to the circumstances in which man is placed; (2) that it is explicable by the idea of good; and (3) that it is possible to discover its origin and trace its growth in the history both of the individual and of the race".[2] Now of these reasons—which (I ought to say) are not expressly addressed to me—only the second appears to me *primâ facie* relevant to the particular point at issue between Mr. Fowler and myself. "Relativity to the

[1] These last italics are mine.

[2] The numbers are introduced by me for convenience of reference.

circumstances in which man is placed" seems to me a characteristic of the *application* of the idea of right, but I do not see that it affects the ultimateness and unanalysability of the idea itself; it affects the answer given to the question "what is right," but not the meaning of the question. Again, as I have already said, the fullest knowledge of the origin and growth of the idea would not necessarily affect the question whether it is now capable of analysis; nor do I see that Mr. Fowler's account of its origin and growth contains anything that bears on this question—unless it be the second of the three statements above quoted, that the idea of right is "explicable by the idea of good".

What, then, does this "explication" amount to? I thought at first that Mr. Fowler's meaning must be that "rightness" is essentially an attribute of *means* not of *ends*, and really signifies that the object to which it is applied is thought to be the only fit means, or the means best fitted, to the realisation of some end, which we conceive as "good" but not "right,"—although the notion of the end may not always be distinctly present in consciousness when we affirm "rightness" of the means. This may hold, so long as we fix attention on actions as distinguished from their ulterior ends; but when we fix it on the *ends* of action, the question arises how the notion of "good" is to be defined, and whether we do not conceive "ultimate good" as the "right and proper end of human action"—to use Bentham's phrase. It seems to me at any rate paradoxical to deny that we commonly think of certain ultimate ends—or the conscious adoption of these ends—as "right": and other parts of Mr. Fowler's discussion would lead me to conclude that he does not mean to deny this. Thus he recognises (p. 227) that man has a "reason capable of comparing the ends to which his feelings impel him," and that when this comparison is made we approve (p. 231) of the "conscious choice of the greater good or lesser evil," even when it involves a sacrifice (p. 234) of "the interests of ourselves to the interests of others"; indeed he considers that it is in this conscious choice and the self-approval that supervenes thereon that "morality first makes its appearance". Again, he recognises as an element of "the process of approbation" what he calls "an act of judgment on the character" of the volition approved, besides and distinct from the mere "feeling of satisfaction" which is sometimes denoted by the word approval. I conclude, therefore, that the approval of the conscious choice of another's greater good in preference to the chooser's lesser good, is regarded by Mr. Fowler as a normal moral

judgment: and I do not see how in this judgment the notion "right" can fail to come in. For this judgment must be expressible in the proposition "that conscious choice, &c., is right," and the word "right" in this proposition cannot *mean* "conducive to greatest good on the whole," since that meaning would reduce the proposition to insignificance. In what way, then, can the idea of right, as used in the judgment of approval of the conscious choice of another's good in preference to one's own, be "explicable by the idea of good"? And if no such explication is here admissible, may we not say that the idea of right, as here applied, is "ultimate and unanalysable" in the sense in which, as above explained, I use the latter term?

III. I am the more concerned to get this point clear because the principle that another's greater good is to be preferred to one's own lesser good is, in my view, the fundamental principle of morality—the ultimate, irreducible basis to which reflection shows the commonly accepted rules of Veracity, Good Faith, &c., to be subordinate. And this leads me to a third point of fundamental importance on which it seems possible to clear away some misunderstanding: I mean what I have called the "Dualism of the Practical Reason". I am not particularly pleased with the phrase, which has a pretentious sound, and is perhaps liable to mislead by suggesting that I claim for my view a completeness of systematic construction which, on the contrary, I wish to avoid claiming; but it seemed the most convenient phrase to express the conclusion in which I was forced to acquiesce after a prolonged effort to effect a complete systematisation of our common ethical thought. Along with (*a*) a fundamental moral conviction that I ought to sacrifice my own happiness, if by so doing I can increase the happiness of others to a greater extent than I diminish my own, I find also (*b*) a conviction—which it would be paradoxical to call "moral," but which is none the less fundamental—that it would be irrational to sacrifice any portion of my own happiness unless the sacrifice is to be somehow at some time compensated by an equivalent addition to my own happiness. I find both these fundamental convictions in my own thought with as much clearness and certainty as the process of introspective reflection can give: I find also a preponderant assent to them—at least implicit—in the common sense of mankind: and I find, on the whole, confirmation of my view in the history of ethical thought in England. I admit that it is only a minority of moralists who explicitly accept this

dualism of rational or governing principles; but I think myself justified in inferring a wider implicit acceptance of the dualism from the importance attached by dogmatic moralists generally to the conception of a moral government of the world, and from the efforts of empirical utilitarians to prove—as in Bentham's posthumous treatise—that action conducive to greatest happiness generally is always also conducive to the agent's greatest happiness.

Well, I have to acknowledge that this dualism—at least, my statement of it—does not appear to be accepted by any of the writers who have criticised my book. This naturally shakes my confidence in the view; but it shakes it less than would otherwise be the case, because, while to some critics the sacrifice of self to others seems solely rational, others avow uncompromising egoism; and no one has seriously attempted to deny that the choice between one or other alternative—according to any forecast of happiness based on mere mundane experience—is occasionally forced on us. I have not, therefore, seen cause to modify my view; but I admit that I put it forward without a sufficient rational justification, so far as Egoism is concerned. This objection was forcibly urged in a review of my book (2nd edition) by Prof. v. Giżycki in the *Vierteljahrsschrift für wissenschaftliche Philosophie* (Jahrg. iv., Heft 1), where it was pointed out that I had made no attempt to show the irrationality of the sacrifice of self-interest to duty. I will not pause to explain how the plan of my book—concerned as it was with "methods" rather than "principles"—led to this omission: I quite agree with Prof. v. Giżycki that the missing argument, if demanded, ought to be supplied; and certainly the assumption upon which the rationality of Egoism is based has been denied by philosophers; though the denial seems to Common Sense so absurd that a serious demand for its explicit statement is rather paradoxical. The assumption is simply that the distinction between any one individual and any other is real and fundamental, and that consequently "I" am concerned with the quality of my existence as an individual in a sense, fundamentally important, in which I am not concerned with the quality of the existence of other individuals. If this be admitted, the proposition that this distinction is to be taken as fundamental in determining the ultimate end of rational action for an individual cannot be disproved; and to me this proposition seems self-evident, although it *primâ facie* contradicts the equally self-evident proposition that my own good is no more to be regarded than the good of another.

If the question were put to me: 'But suppose that there is no practical solution of this contradiction, through any legitimately obtained conclusion or postulate as to the moral government of the world, or in any other way: what then? Do you abandon morality?' I should answer: 'Certainly not, but I abandon the idea of rationalising it completely. I should doubtless still, through sympathy and sentiments protective of social wellbeing, imparted by education and sustained by communication with other men, feel a strong desire for the general observance of rules conducive to general happiness; and practical reason would still impel me to the performance of duty in the more ordinary cases in which what is recognised as duty is in harmony with self-interest properly understood. But, in the rare cases of a recognised conflict between self-interest and duty, practical reason, being divided against itself, would cease to be a motive on either side; the conflict would be decided by the comparative preponderance of one or other of two groups of non-rational impulses.' That is, I should lapse to the position which many utilitarians since Hume have avowedly held —that ultimate ends are determined by feeling, not by reason. Here, as I understand, Prof. v. Giżycki would disagree: he holds that, while the demand for the reconciliation of Virtue and Happiness—which he recognises as normal to humanity—is merely an "affectives Bedürfniss," the preference of Virtue or general happiness to private happiness is a dictate of reason, which remains no less clear and cogent, however ultimate and uncompensated may be the sacrifice of private happiness that it imposes. I do not deny this position to be tenable; since, even if the reality and essentiality of the distinction between one individual and another be granted, I do not see how to prove its fundamental practical importance to anyone who refuses to admit it; but I find such a refusal impossible to myself, and I think it paradoxical.

Suppose now that the reasonableness of the assumption required for the reconciliation of Duty and Self-interest—the assumption of the "moral government" or "moral order" of the world—is granted: suppose it granted that Virtue may be assumed to be always conducive to the virtuous agent's happiness on the whole, though the connexion between the two is not scientifically cognisable. The view of morality that I advocate—the systematisation of the morality of Common Sense on a utilitarian basis—does not then seem to involve any fundamental practical difficulty; though it is still liable to many doubts and disagreements as

regards details, from the inevitable imperfections of the hedonistic method. It remains, however, open to a fundamental theoretical objection, urged by Mr. Rashdall in a penetrating criticism of my views which appeared in MIND No. 38. Mr. Rashdall considers that the "central difficulty" of my position lies in the "assignment of a different end to the individual and to the race". He argues that if "it is pronounced right and reasonable for A to make sacrifices of his own happiness to the good of B," as this must be equally right and reasonable for B, C and D, "the admission that altruism is rational" compels us to conceive "the happiness which we ought to seek for society," not as mere happiness but as "moral happiness". The ultimate end, for the race as well as for the individual, thus becomes composite: it consists of a higher good, Virtue, along with a lower good, Happiness, the two being so related that in case of conflict the higher is always to be preferred to the lower.

Here I admit, as in a sense true, the starting-point of Mr. Rashdall's argument; I admit substantially the contention that my view "assigns a different end to the individual and to the race," though for a reason that I shall presently state, I regard this phraseology as misleading. But, granting to the full the alleged difference, I am unable to see why it constitutes a difficulty, since the individual is essentially and fundamentally different from the larger whole—the universe of sentient beings—of which he is conscious of being a part: just because he is conscious of his relation to similar parts of the same whole, while the whole itself has no such relation. I, therefore, do not see any inconsistency in holding that while it *would* be reasonable for the aggregate of sentient beings, if it could act collectively, to aim at its own happiness only as ultimate end—and *would* be reasonable for an individual to do the same if he were the only sentient being in the universe—it is yet *actually* reasonable for an individual to make an ultimate sacrifice of his happiness for the sake of the greater happiness of others, as well as reasonable for him to take his own happiness as ultimate end; owing, as before explained, to the double view which he necessarily takes of himself as at once an individual essentially separate from other individuals, and at the same time essentially a part among similar parts of a larger whole.

At the same time I am not prepared to deny that a consistent system might be worked out on the basis of such a composite End as Mr. Rashdall suggests, and I shall not attempt to prove, before seeing it in a fully developed

form, that it would be more open to attack on the score of paradox than my own. But I can give a decisive reason for not accepting it myself: *viz.*, that when Virtue and Happiness are hypothetically presented as alternatives, from a universal point of view, I have no doubt that I morally prefer the latter; I should not think it right to aim at making my fellow-creatures more moral, if I distinctly foresaw that as a consequence of this they would become less happy. I should even make a similar choice as regards my own future virtue, supposing it presented as an alternative to results more conducive to the General Happiness; and for this reason, among others, while holding the fulfilment of Duty to be ultimately reasonable for the individual no less than the pursuit of self-interest, I think it misleading to say that Virtue is an ultimate good to the individual as well as Happiness. As I have explained in my *Methods of Ethics*, bk. iii., ch. 11, § 3, I distinguish the question "whether the dictates of Reason are always to be obeyed" from the question "whether the dictation of Reason is always to be promoted"; and, while I answer the former question unhesitatingly in the affirmative, I leave the latter to be determined by empirical and utilitarian considerations.

II.—MENTAL ACTIVITY.

By Dr. Edmund Montgomery.

I.

The attempt is here made to discover the proximate source of what usually goes by the name of "mental activity". In setting about this task, one way only is open, and that is to examine the nature and import of the various components of our conscious content. For it is a self-evident and settled truth, that our knowledge consists solely of what we consciously realise.

Of all differences discoverable among the congeries of conscious states that make up our moment of mental realisation, the one that has struck observers as most salient is that obtaining between sensations and thoughts, or, more properly, between perceptions and conceptions. These two modes of mental realisation seem to bring with them the knowledge of two different worlds. One of these worlds apparently subsists outside of us, figured in open space before our senses. The other is more or less clearly apprehended within our own inner self, by force of what we call our reason or intelligence,

To thinkers of all times it has been a standing puzzle to make out the exact relation of these two closely interdependent and yet so widely disparate worlds. "De mundi sensibilis atque intelligibilis forma et principiis," has ever been a leading theme with philosophers. And it will be admitted, that this ancient topic still in our time occupies a central position in theoretical philosophy. Whether considered, metaphysically, in relation to a real world revealed to the senses, and another most real world of all revealed to intelligence; or considered, psychologically, simply as relating to perceptual and conceptual experience;—it is the topic which above all others is at present engrossing the attention and exercising the ingenuity of those who are busying themselves with philosophical interpretation.

In an inquiry of the kind before us it is advisable to follow historical lines. The recent critical re-examination of their respective standpoints has led almost all schools alike to go "back to Kant". Spiritualists and Materialists, Transcendentalists and Associationists, Nativists and Empirical

Evolutionists, do not disdain to hitch in common their museful Pegasus to the lumbering chariot of the Critical Philosophy. No wonder. All leading views with their contradictories find themselves there discriminated and represented. Metaphysically, Kant believed in a supersensible world to which Reason in its completeness points. But he believed also in a world of Things-in-themselves giving material to the senses. Psychologically, he reinstated in German philosophy perceptual presentation as a mental occurrence differing in kind, and not only in degree, from conceptual knowledge. And while from the physical standpoint he looked upon cosmical development as an outcome of mechanical necessity, from the moral standpoint he taught that a power of free mental causation is flowing through man into nature from a supernatural source.

In Germany the going back to Kant meant principally a reaction against an undue preponderance attributed to intellectual agency in the make-up, not only of individual knowledge, but of nature at large. In England, on the contrary, it meant a reaction against an undue preponderance attributed to the efficiency of mere sensorial elements in the constitution of experience.

Kant himself, while apparently weighing in equal scales the respective merits of sense and intellect, really tipped with a prejudiced and overwhelming thrust the beam in favour of the latter.

At the dawn of the neo-Kantian era, the present writer took pains to point out and to expose the fundamental misconception which allured Kant to attempt once more the task of rationally unifying the then seemingly so disparate worlds of sense and intellect.[1]

Like the Cartesians, Kant had formerly seen his way to no other than a mystical solution of the great standing problem. "Nempe nos omnia intueri in Deo:" this was, at that time, his, as well as Malebranche's, conclusion. But the alleged discovery of synthetical judgments *a priori*, presupposing a power in us capable of constructing geo-

[1] *Die Kant'sche Erkenntnisslehre*, &c., 1871, pp. 92-93. "The fundamental mistake made by Kant was the arbitrary bisection of the cognitive faculty into a passive and an active half; with the attribution of the entire passive part to sensorial perception, and of the entire active play to abstract conception." "According to his view there is received through sense nothing but a given chaos of non-cognised impressions; and, consequently, it falls to this one active power in knowledge, namely, to intelligence, to bring into this casual, subjective and passive congeries of sensorial affections, unity, order, necessity, objectivity—in fact, everything that imparts to it animation and efficiency."

metrical knowledge without the aid of any sense-derived material,—this alleged discovery made the relation of intellect to sense appear to Kant in a new light. Space itself—the form in which such *a priori* geometrical constructions, as well as all *a posteriori* sensorial appearances, manifest themselves—must, then, be an original endowment of our own sensibility. And it must be the spontaneous activity of the intellect that shapes the geometrical figures within the empty and passive perceptual form, and that thereupon works up these specific spatial determinations into universally valid knowledge.

The intellect was, under this aspect, conceived as an agent whose productive activity is capable of impregnating with perceptual existences the changeless spatial form, determining it in those active ways that alone enter into knowledge. And this same intellect was, moreover, conceived as the synthetical power which works up this self-determined spatial material to complete cognition.

Such being the case, the sensorial material yielded during perceptual presentation by sense-affections can, in the entire absence of intellectual elaboration, also subsist in an undetermined and unsynthetised state. And if presentations in Space are, as such, wholly undetermined and unsynthetised, then, all the more, as presentations in Time, they, as well as all non-spatial presentations in this constantly lapsing medium, must remain chaotically incoherent, until brought under the grasp of knowledge-constructing intellect.

From this point of view, it inevitably follows, despite Kant's struggle against it, that all presentations of the "outer" and "inner sense," *i.e.*, all material for knowledge, whether consisting in appearances given in Space, or of anything at all given in Time,—that all such experiential stuff is virtually non-existent as constituent element of actual conscious experience. For, according to Kant, before determinate extension is actually constructed by the spontaneous activity of the Intellect, and the successive moments of such construction gathered up and combined by this same activity, there is no cognition, and therefore no conscious experience of actual Space. Before "motion as an action of the subject" produces succession, and the lapsing moments of such succession are noticed by the Intellect and unified into simultaneous apperception as definite duration, there is no cognition and therefore no conscious experience of actual Time. Consequently, under these conditions, there can be without intellectual activity no cognition of any kind, no

conscious experience of any sensorial content of intellectually undetermined and unsynthetised Space and Time.

Assuming with Kant that the Intellect is really the sole constructing and unifying power underlying experience, it has unavoidably to be conceded that the world we actually know, with all its definite spatial configurations and timely determinations, must be out-and-out its own fabrication. Detached sensorial elements can under this supposition count for nothing in cognition. For, to form part of knowledge, every element must have already been subjected to the determining and combining influences of the Intellect. What the Intellect realises, by dint of such spontaneous activity of its own, is a unitary world in which every element falls into place as an integrant part, occupying thus by force of its definite relations to all other parts a necessary, pre-established position in the entire body of thought. And as no sensorial raw-material can possibly force itself as a new increment into this already completed totality of thought, it follows, that Intellect, universally conceived, must itself be the creator and sustainer of the world we consciously realise. Our individual thought, then, merely *re*-cognises the pre-formed, self-created content of universal Thought.

This, indeed, is the consistent outcome of the Kantian doctrine of an Intelligence endowed with constructive efficiency and synthetical powers. And Kant's followers soon found courage to adopt as their philosophical creed the extreme logical consequences of this modern reversion to principles necessarily leading to something like Alexandrian Platonism. In their view, not only the outside world affecting the senses, but the sensorial affections themselves, dwindled away into non-existence. Perception was again degraded to a rank wholly subordinate to conception. And Being came once more to be looked upon as entirely identical with adequate conceptual Thought.

But whatever exegetical ingenuity idealistic followers of Kant may employ to draw the master to their side, it must be patent to unbiassed students, that he, at all events, never doubted that sense-material falls into Space and Time from some source external to our Being and its Intellect. His laborious examination led him unequivocally to the final conclusion, that the Intellect is capable of exercising its constructive and synthetical powers only on *sense-given* material; the experienced order and connexion in nature being, however, entirely the product of those intellectual powers. Still he never lost sight of his other, extra-mental, world, the one toward which intellectual conception in its completeness

was pointing. Amid all the iconoclastic thoroughness of his theoretical speculations, it remained his consoling faith, that our innermost Self stands rooted in a central, supernatural sphere, drawing therefrom its highest efficiencies. To his matured thought, it was this supernatural Self of ours that has power, not only morally to modify the work of mechanical necessity, but also to use as its fixed and necessary functions the categories, constituting with their aid valid knowledge by systematising all combinations yielded by them within its synthetical unity of apperception.

However much our present Trancendentalists may profess to lean on Kant, or, on the other hand, may strive to graft their exalted theories on the humble growth of Locke's ideas, the good of Kant's labour, as well as that of English Experientialism, is all but lost to philosophy when Being is conceived as identical with Thought. This perplexing question of the relation of Thought to Being is the essential point on which in its various phases the contention of modern philosophy is turning. Is the power that binds into interdependence and unity the existences of the sensible world the same power which gathers up into a logical whole all fractions of our individual experience? Does our thought in its order and combinations follow a given order and given combinations of sensible things; or is it, perchance, our thought, as such, that coerces into systematic order the sensible manifold of what we call nature; or, again, are the order of succession and the casual combinations of natural existences transmuted into a logical totality of experience, by becoming organically incorporated into the matrix of our unitary consciousness? In fine, is thought-activity the source whence the significant order of nature emanates; or is it from the significant order of nature unified in our world-responsive organisation that its thought-manifestation is born? Surely it cannot be reasonably maintained that this great question of Thought and Being has yet been satisfactorily settled one way or the other.

Through Leibnizo-Wolffian influences Kant had in early days been led to look upon formal logic, with its principle of identity and contradiction, as the only instrument of knowledge. The study of Hume, however, convinced him that logical connexion and natural connexion are two entirely different modes of dependence. To his great surprise he had to acknowledge that so-called causation, or the intimate connexion obtaining among experiential facts as we become aware of them, is not of logical but of empirical origin. In actual experience one event does not follow another according

to logical principles. It is experience alone that can teach what occurrence in nature will issue from definite antecedents.

Kant, though not fully understanding Hume's purely sensorial Experientialism, was quick to perceive, that, if all knowledge is thus experientially put together by simply remembering bit by bit the sensibly impressed order of natural connexion, without our being in possession of general principles by force of which we may legitimately constitute knowledge overreaching the experiential data,—that then all metaphysical constructions indulged in by former philosophers had been mere air-built edifices, and that there can be no knowledge whatever transcending the facts and combinations of actual sensorial experience.

It was to escape this tremendous implication, carrying with it the overthrow of everything supernatural, that, after the alleged discovery of *a priori* synthetical propositions, Kant set himself strenuously to work to gauge the compass and general reach of the spontaneous mental power, which must necessarily be operative in such intellectually constructed knowledge. When his task was accomplished, his theoretical speculation had indeed rid itself of the influence of super-sensible entities. But though on the one side it fearlessly demolished every kind of spiritualistic Ontology, on the other side it brought him into *irreconcilable* opposition to the sensorial Experientialism of English thinkers.

It was the view of these latter, that the synthesis obtaining among sensorial particulars is due to a gradual consolidation, established through reiterated experience of their order when received as actual sensorial impressions. Kant's view, on the contrary, was, that the given order of sensorial impressions has nothing whatever to do with their synthesis; that the sensorial material remains wholly unsynthetised until gathered up and combined by the specific *a priori* powers of the Intellect. With the English thinkers the significant order and coherence of mental occurrences originate experientially on the sensorial side. With Kant it is established through pre-established modes of intellectual activity.

In their explanation of synthetised experience both views seemingly refrain from calling in the help of agencies lying outside the mental content. Hume, who had pushed sensorial Experientialism as far as it would go, pretended not to believe in anything awakening sensorial impressions from outside the mind. And Kant persuaded himself that his synthetical powers were of "transcendental" and not of "transcendent" origin and nature; *i.e.*, that they were natural mental functions existing solely as modes of combi-

nation found actually operative in the synthesis of sensorial data.

These diametrically opposed attempts to construct a *theory of knowledge* by merely taking notice of what is actually found in consciousness, without reference to anything existing beyond it, could succeed only by means of fictitious assumptions and the neglect of essential implications. Knowledge necessarily implies something different from itself, of which it is the knowledge. Whether a result of the intimate agglutination of sensorial particulars or a product of the synthetical activity of the Intellect, the synthetised mental content would, as such, be wholly meaningless if it did not refer to something beyond itself.

Consequently, we find that Hume's experientially established order of mental occurrences receives its true significance as knowledge only in reference to the *given order of actual impressions*. These inpressions, though defined by Hume as "merely the perceptions themselves," clearly imply something which impresses them, and also something which receives them. A perception cannot possibly originate its own self; and this, moreover, out of nothing. Nor can it exist self-sustained in its own medium. But, besides, when I see a flame, and the idea of heat is called up in consequence, the really important fact here is, not that I have the *idea* of heat, but that I shall receive the actual *impression* of heat as soon as I get sufficiently near the flame. Now it is evident that the directly experienced connexion between actual impressions is not of *mental* consistency. The actual impression or perception of a flame does not call up the actual impression or sensation of heat, but only its remembered idea. The established mental connexion between the perception of a flame and the *idea* of heat is, however, avowedly moulded on the connexion obtaining between the actual impression or perception of the flame and the actual *impression or sensation* of heat, which prototypal connexion is not of mental origin and consistency. Consequently, the mental order, as knowledge, refers to a pre-established, extra-mental order.

The primary assumption of nothing but actual and remembered sensorial impressions is the reason for Hume's blinking of this realistic implication necessarily inherent in his theory of knowledge. Later Associationists, with less logical consistency, have very generally referred to an extra-mental order as prototype of the intra-mental order; while at the same time laying most stress—as chiefly conducive to systematic thought-realisation—on the order in which the

remembered ideas of impressions appear in the conscious content.

Kant, strange to say, though generally pre-eminently credited with the formulation of a profound theory of knowledge, has really completely failed in this most arduous endeavour of his. For it is obvious that his intellectually constructed mental objects have no reference whatever to anything beyond themselves. They certainly do not refer, as knowledge, to the sensorial raw-material, which is declared to contain nothing at all cognisable in itself. Much less can they refer to the thus utterly estranged world of Things-in-themselves, from which wholly unknowable sphere Kant believed sensibility to be somehow impregnated with a chaotic material having nothing objective in its own make-up.

But the real oversight that led Kant to believe he was explaining knowledge, without cognitive reference to anything beyond what is found in actual consciousness, lay in his theoretical neglect of the transcendent sphere, whence he was in truth all the time deriving his synthetical power. In his system it is, and must be, a prepotent agent that from some dwelling-place beyond consciousness sets going the synthetical functions whereby "nature is made" as object of knowledge. Kant gives to this prepotent, supernatural agent the name of "Intelligible Ego". And with him it is, in verity, this intelligible Ego, as bearer of the all-efficient Intelligence and its synthetical unity of apperception, that fashions by force of its own spontaneous activity the system of knowledge going by the name of nature. It is clear, then, that the active, order-establishing power in nature, whose modes of activity are recognised by us, inhered with Kant, as with Hume, not in the conscious content itself, but somewhere in extra-conscious latency. Only it was conceived by the former as intellect-inspiring, by the latter as sense-affecting.

No wonder that, by consistently following Kant's way of interpreting the conscious content, Fichte found himself soon landed in pure Solipsism. Later, however, the magnanimous concession, that other thinking beings cannot well be mere phantoms of one's own making, and that all these thinking individuals are evidently realising in their consciousness one and the same world—these and other considerations led at last to Objective Idealism.

This ultimate view, to which Transcendentalism has very generally arrived, conceives the totality of existence subsisting in all eternity as the thought of a universal Intelligence, which reality-constituting Thought comes to be more and

more completely *re*-cognised by human individuals, by means of a revelation conveyed through a progressive historical evolution. Here the object of knowledge, as with Hume and Kant, is likewise something existing beyond the content of individual consciousness—namely, the activity of universal Intelligence, which alone is believed to constitute veritable Reality or Being.

II.

The conscious content, which exhibits in immediate presence all the experience we awaredly realise, refers, as we have seen, incontestably to some kind of reality beyond itself. The question is: Where is the dwelling-place of this reality, and what is its nature?

By naturalistic thinkers and the universal intuition of mankind, the reality known through consciousness is believed to subsist independently of this its mental realisation, becoming more and more fully revealed to us by means of specific sensorial affections and their derivatives. Transcendentalists, on the contrary, believe the implied reality to subsist as the thought-creation of a universal Intelligence, revealed to our human mind through conceptual recognition.

It has to be conceded that the consistent sensorial view fails to take proper account of such constituents of the conscious content as transcend in meaning and worth all that can possibly be of sensorial origin. For, assuredly, our complex emotions, thoughts and volitions, at least, are of strikingly super-sensible significance. The consistent intellectual view, on the other hand, seeks to suppress in a most arbitrary manner the manifest import of perceptual consciousness.

But leaving these deficiencies of the two views for the present out of sight, whence does the conscious content itself receive its being and activity? What is it that originates and sets going the diversified display experienced by us as conscious revelation?

Admitting the fictitiousness of the "psychological idea," or, in other words, the non-existence of the subject of empirical psychology commonly called "soul," Kant, nevertheless, assumes in each of us (as already stated) an actuating agent of the conscious display, belonging to the intelligible or supernatural order. With him the perceptual appearances, as such, are utterly passive, and their various modes of combination, the categories, are, as such, in no way self-acting. It is not the category of causation, for instance, that has of itself power to seize hold of the perceptual particulars in order

to weld them together in necessary dependence. In the Kantian system it is the intelligible Ego, with its spontaneous intellectual activity, which uses the categories as its instruments to fashion the conscious world we know. With the thorough-going post-Kantian Transcendentalists all actuating power inheres in a universal Intelligence. And we ourselves, as well as our entire conscious revelation, are only moments of reflex-thought in the eternal Mind.

But Hume, who tried to get rid of all supernatural and extra-conscious assumptions, by accounting for the conscious display through experiential agglutinations between the sensorial particulars and their derivations,—where does he place the actuating power amid the busy shifting and changing experienced within his self-conscious panorama? He tells us plainly that the idea of power, force, energy or efficacy is a mere fiction; that neither external nor internal impressions have anything of the kind in them. "We never have any impression that contains any power or efficacy. We never therefore have any idea of power" (*Treatise*, iii., § 14). Yet when he comes deliberately to give a definition of mind, he finds it indispensable to assume power or efficacy somewhere. He says: "The true idea of the human mind is to consider it as a system of different perceptions or existences, which are linked together by the relation of cause and effect, and mutually produce, destroy, influence and modify each other" (*Ib.*, iv., § 6).

Here we find it unequivocally maintained that the "different perceptions" which form the conscious display, *themselves* "produce, destroy, influence and modify each other". According to Hume, it is, and indeed must be, in the conscious particulars themselves that the power or efficacy resides, which brings them into being and gives them compelling influence over the existence and constitution of one another. We have thus self-produced existences of an obviously ephemeral character, which—themselves vanishing into nothingness—draw out of this same nothingness other previously non-existent existences, with which they are nevertheless found to be intimately pre-connected by the mighty bond of causation.

Such, indeed, is the nonsensical and nihilistic collapse that must overtake this and all other attempts to lodge the producing and actuating power in anything forming part of the conscious content.

It belongs—as I hope conclusively to show—to the essence of all constituents of the conscious content to be out-and-out evanescent and forceless. Our conscious content or

mental presence emanates from moment to moment as a new-creation from unconscious depths of being, and its successive moments with their revealing flash vanish, as such, wholly out of existence. It is of the utmost importance clearly to realise the merely indicatory significance and speedy evanescence of conscious states. Where, indeed, can there be found any permanency, self-activity or efficiency in anything of conscious consistence? And though everything we are cognisant of is revealed to us as forming part of our conscious content, yet it is a philosophical superstition to believe that there can be a self-rounded, self-significant science of purely psychical occurrences; for it is certain that psychical occurrences, as such and among themselves, have neither meaning nor power.

Philosophers who think they are constructing a science of self-sustained and self-moved psychical existences forget that all the while they are supplying from the ample resources of their own completed human individuality whatever is needed to bring the purely psychical existences into being and interaction. When I say, 'The perception of a flame brings up the idea of heat,' I really mean that in me and others this connexion has already been established, and is subsisting at all times within us in extra-conscious[1] latency. The obtaining nexus is, consequently, of extra-conscious and not of conscious consistency. It is not the perception of the flame, as a conscious fact, which produces or forces into conscious existence the idea of heat. But the same compelling influences which awaken in me the perception of a flame awaken also by dint of pre-established, extra-conscious connexion its accompanying idea of heat. It is in the pre-established constitution of the realising subject that the efficiency inheres, not in the flame as a particular percept. These realistic implications necessarily attach to the recognition of our individuated being as the enduring subject of the conscious play. And they cannot be legitimately neglected in the interpretation of our conscious content. Though there can be a psychology without a ψυχή, there can never be one without the feeling and thinking ἄνθρωπος.

Psychology, as a science of self-originated and self-acting conscious existences, rests on eminently fictitious assump-

[1] The preposition 'extra' and its equivalents are used in this discussion in the sense of *not within* the conscious content and by no means in the sense *outside of* it, spatially conceived. Of course, the terms 'inside' and 'outside' spatially conceived apply only to perceptual phenomena.

tions, and can lead only to nihilistic results. Such a science, constructed without reference to an abiding, extra-conscious source of actuation and emanation, and without investigation of the specific states of this pre-organised matrix—such a merely introspective science, if at all consistent, will ever hang in vacancy, vaguely describing an illusive, meaningless and mostly incoherent play of evanescent phenomena. Our conscious content, brought into existence by extra-conscious powers and processes, and referring as knowledge to extra-conscious existences and activities, how can its examination yield valuable instruction when these *all-important* realistic implications are left out of account?

But, in actual interpretation, realistic implications are never left wholly out of account even by those who believe they have evaded the difficulty of an underlying reality by endowing particular constituents of the conscious content with whatever efficacy they desire. All such efforts are, however, brought to naught by the simple fact, that nothing of conscious consistency is the bearer of anything like force or power.

The constituents of our conscious content can in no way be legitimately compared to the interdependent and interacting parts of a mechanical whole; nor the order of their conscious appearance to a mechanical process. Surely, perceptual coexistences, such as colour and extension, or the shape and colour of a violet and its odour, are nowise mechanically interdependent and interacting. Nor do the many adjacent forms which coexist in a complex perception, hang together by any kind of mechanical bond. Much less can the fixed order of successive appearances within the conscious content be attributed to anything in the remotest degree resembling the successive phases of a mechanical process. The sight of a flame does not bring up from its extra-conscious hiding-place the associated idea of heat through anything like mechanical contiguity and friction.

Attempts to interpret the conscious content and its changes, by applying in some way or other 'statical' and 'dynamical' principles to its psychical facts and occurrences, must ever remain a futile undertaking, however consummate the ingenuity bestowed upon it. The constituents of the conscious content are, as such, immaterial and forceless. They are evidently devoid of what is mechanically called 'mass,' and are therefore wholly unresisting. And as nothing without resistance can possibly be in possession of force and momentum, nothing within

the conscious content can be capable of imparting or of receiving energy.

Believers in psychical energy, whether as Transcendentalists they place it in the intellect, or as Associationists and Herbartians they invest with it sensorial particulars, or as Spencerians seek to apply the principle of the persistence of force and its convertibility to psychical phenomena—one and all they have no legitimate ground to stand upon. It is only in the world of inferred extra-conscious powers that force can possibly dwell, and that energy can be received and imparted.

This emphatic denial of anything like efficacious power appertaining to mental existences or states, as such, rather boldly challenges common conviction. But surely it is only in the vaguest metaphorical sense that such terms as force, energy and their like can be applied to the ghostly flittings and inwardly occluded play of feelings that make up our conscious content.

This view of the forceless nature of the conscious content has recently been corroborated in a very striking though unconscious manner by the mathematical physicists. Their object of research, supposed to be of physical consistency, is really composed of nothing but the time- and space-relations of compelled percepts and their movements. For these inquirers purposely refrain from referring to the perception-compelling influences, or to anything beyond the complex perception as such. In consequence of this limitation of physical science to the investigation of the time- and space-relations of mere perceptual appearances, these mathematical physicists can discover in this purely ideal play of conscious phenomena neither resisting material, nor force, nor energy; and they have thus been led to discard as superfluous all such realistic and inferential conceptions, reducing everything to mere phenomena of interdependent motions.

How strange this immaterial consummation of the science of material objects! What eloquent and instructive irony speaks out of this assiduous chasing of physical reality in the psychical medium, ending with the grasp of nothing but moving phantoms—an unsubstantial play, as forceless and evanescent as the spectral visions of a dream! Fortunately, the existents whose characteristics and activities are emblematically and unsubstantially shadowed by the compelled percepts happen to be themselves endowed with sufficient permanency and efficacy to allow us to conclude that the world does after all not entirely consist of "such stuff as dreams are made off".

Of course, it is easy to get over the fundamental difficulty of psychology by simply assuming—as most psychologists actually do—an efficient subject capable of seizing hold of, and of manipulating more or less at will, the psychical events that make up his conscious content. But, then, who and of what nature is this self-acting Subject? And how does it set about understanding the meaning and controlling the direction of the conscious play experienced as taking place within its own being?

To identify this acting Subject with anything psychical is to identify it with something forming part of the conscious content; for this is the only actual experience we have of anything psychical. And when we call this Subject "Reason," "Intelligence" or "Will," we simply elevate into fictitious existence, and arbitrarily endow with the desiderated powers, a generalised conception of one or the other class of conscious occurrences.

Permanency and efficiency are what we are in need of. But the conscious occurrences are as such transient and forceless. It is clear, then, that it is not in them we can find the requisite qualities wherewith to equip our assumed Subject. When we maintain, that "Reason" is the efficient power; or that "the Intellect" discriminates, assimilates and retains conscious facts, or perceives them, or that "Will" is the actuating force within the conscious content and otherwise, we certainly hypostatise as self-acting and efficient agents, under the name of known conscious occurrences, something of which no experience whatever is given as making up the conscious content.

To unprejudiced thinkers it must, indeed, seem at once obvious, that the Subject that has and controls the conscious content cannot possibly itself form part of this content, but must possess a nature altogether transcending it.

Now the real question is: Do we naturally, and can we as philosophers legitimately, infer as endowed with permanency and efficient power something not forming part of our conscious content? On the answer to this question depends essentially the character which our world-conception will assume.

I am confident that *positive proof* of the existence of a world of efficient powers beyond our conscious content—a world to which our own efficient Subject belongs—can be readily given to all who admit the existence of other beings like themselves. For it is incontestable, and in keeping with the forceless character of psychical occurrences, that we become conscious of the existence of other beings,

not in the least through awareness of anything forming part of their conscious content. When we perceive another human being, this perception does not contain any of his conscious states. His sensations, perceptions, emotions, thoughts and volitions are not given, as such, in the coloured and moving figure which constitutes our visual percept of him; nor are they contained, as such, in the air-vibrations which his articulate speech sets in motion, and which mechanically strike our ear. It is evident that no constituent of his conscious content has, as such, any power whatever to affect our senses. Consequently, that part of his being which has power to affect our senses must possess a nature differing altogether from anything forming part of his conscious content. It follows, irrefragably, that the vivid and characteristic percepts which signalise in our conscious content the presence and peculiarities of another being are awakened in us, not by what we call his 'mind,' but by what we call his 'body,' or whatever name we may give to his non-psychical, extra-conscious nature.

It is important to take notice of a necessary and obvious correlative of this consideration, namely, that this bodily part of a human being's nature which has power to affect the senses of observers can never, as such, form part of this being's own conscious content. The well-known congeries of sensations and perceptions which figure as our own body in our conscious content is certainly not the existent that has power to affect the senses of an observer, but only our own perceptual realisation of such existent; which psychical realisation is of the same merely representative order as the observer's perception of it. Now, unmistakably, it is the non-psychical, sense-affecting and, therefore, power-endowed part of a being's nature which constitutes his veritable, permanent Self. And it is within this extra-conscious Self that are evolved the transient though highly significant occurrences which make up his conscious content.

Surely these are legitimate inferences from the universal and sane conviction, that there exist other beings like ourselves. And it need hardly be mentioned that these well-grounded inferences are of paramount importance, not only to philosophy at large, but also to psychology. As the key to the significance, order and relation of the manifold, ever-changing constituents of the conscious content is found solely in their realistic implications, it is clear that no valid science of psychical phenomena can possibly dispense with a constant reference to these implications.

Physical science, even in its most abstruse mathematical

flights, confines itself to the investigation of the time- and space-relations of *sense-compelled* percepts, in which class of psychical facts and occurrences the realistic implications are of the most direct and obvious kind. By fancying for a moment a physical investigation of last night's dream-vision, one may realise how all-important the realistic implication is to science.

Psychology, which has to deal not only with sense-compelled percepts but with all manner of psychical facts and occurrences, has no easy task to discover the true realistic import of all the crowding throng of often only remotely representative psychical marks that make up the conscious realisation of nature in its widest sense. But neither these marks themselves, sensorial, perceptual, emotional, conceptual or volitional, nor their mutual relations, can possibly be understood without reference to what they are marks of. The magic web of Space- and Time-conquering ideas, the delicate graduation and profound thrill of emotions, the prescient reach of volitions,—what meaning can there be found in it all, without piercing beyond the mere psychical manifestation to what in extra-conscious reality it implies?

The simple consideration, that psychical states and occurrences have, as such, no power to make themselves directly known to other beings, contains also a sufficient refutation of such Idealism as believes us capable of being directly affected by the thought of a universal Intelligence. For, as no kind of *experienced* thought inherent in another being has power to affect us directly, and as *inferred* thought of any kind can be imagined only in analogy to experienced thought, therefore no kind of inferred thought can have, as such, power to affect us. This argument seems plain enough, and should be candidly pondered. Its frank admission or valid overthrow would greatly conduce to unify our divers world-conceptions.

But how does the legitimately inferred Subject come to understand the meaning of its conscious content, and to gain so large a control over it? Perhaps the most difficult task in philosophy is to find a sufficient explanation of these world-apprehending and self-acting faculties of the Subject. It has been shown that nothing experienced within the conscious content can at all account for them. Is it then, perchance, possible to derive some partial clue to this great enigma from that part of the Subject's being which has power to affect the senses of observers, and compel in them the vivid and minutely characteristic percepts that constitute our knowledge of its extra-conscious nature?

It is an undeniable fact that we infer activity wherever we perceive motion of any kind, and we infer it only when motion is perceived, or legitimately conjectured as present. When I see the parts of a machine change their relative positions, I conclude that the machine is acting. When I see a person move in certain ways, I say he is acting in this or that manner, or is performing this or that action. Now it is quite obvious that I, who in these cases am realising as my own perception the moving objects, am not myself the agent who performs the actions perceived by me. My percepts, together with their motions, are only characteristic signals aroused in me by the signalised, sense-stimulating existents and their specific activities. *Motion is, therefore, only our conscious sign for activities that take place in extra-conscious existents, or emanate from extra-conscious agents.*

The motions of, or within our, *compelled* percepts are, then, as conscious facts, not themselves activities, but merely signs of extra-conscious activities. And these perceptual signs of activities that are taking place in other beings derive *their own existence* from definite extra-conscious activities that are taking place in the subject in which they themselves occur. This has become a scientifically established truth by the general admission that, whenever we are conscious of a compelled percept and its motions, or, indeed, of any other psychical occurrence, an outside observer would, under favourable conditions, be able to become aware (as his own percept) of definite motions in that part of our being which he perceives as our brain. And these perceptual motions in the conscious content of the observer are undoubtedly signs of definite activities taking place in the extra-conscious or non-psychical being of the observed subject. For it is, as has been shown, this extra-conscious being which alone has power to affect the sensibility of an observer, and compel in him the percepts he is conscious of.

We may then fairly maintain that, whenever we are conscious and whenever this our conscious content changes or moves, there are corresponding activities astir in our extra-conscious being, which activities manifest themselves to observers as definite brain-motions with their further organic outcomes.

The activity which arouses from outside our compelled percepts and their motions belongs to the extra-conscious nature of the arousing powers. The activity which within ourselves gives being and movement to our conscious content belongs to our own extra-conscious nature. Activity, therefore, whether taking place in our own being or outside of it,

is always merely inferred, and never directly experienced as constituent of our conscious content. But, though a mere inference, it receives its justification and validity from the evident fact that our immediate awareness of other beings and their doings consists in compelled percepts and their motions, which conscious revelation is certainly aroused in us by *extra-conscious* powers. And—once more be it stated—'extra-conscious' or 'non-psychical' must these percept-arousing powers be called, because nothing of conscious or psychical consistency in other beings has power to arouse percepts in us.

We may then use as legitimately available factors in our explanation of so-called mental activity, first, our own conscious content; secondly, the compelled percepts and their motions aroused in an observer by our extra-conscious being and its activities; thirdly, this our extra-conscious being and its activities as thus positively and distinctly signalised through the compelled percepts and their motions within the conscious content of the observer.

As mental activity, like all other modes of activity, can be only of extra-conscious origin and nature, we cannot expect to gain information regarding it by simply examining, without reference to extra-conscious implications, that part of our being which constitutes our conscious content. Our conscious content, as such, has neither intrinsic power over its own constituents, nor extrinsic power to arouse signalising percepts in observers. It is, as has abundantly been shown, utterly forceless, and, therefore, incapable of initiating or performing any kind of action. Information regarding the origin and nature of mental activity, if at all attainable, has to be gathered from compelled percepts, which alone reveal the efficient characteristics of the acting Subject.

However meagre such perceptual information regarding our extra-conscious and efficient nature may be—consisting, as it does, of nothing but sensorial signs, that in the highest reach of perceptual realisation amount to mere coloured forms and their motions—still, various essential points concerning the nature of the Subject and its mental activity may be made out upon the evidence of these emblematic signs. First of all, as being of chief importance, the substantiality of the acting Subject can be scientifically explained. It can be shown, namely, how under constantly enforced change the acting Subject nevertheless succeeds in retaining its essential identity. This cardinal point, when merely psychologically—and, therefore, wrongly—inter-

preted, constitutes the stronghold of Idealistic Transcendentalism. I have discussed it in my article on "The Substantiality of Life" (MIND vi. 321). Next in importance is the spontaneity of the essential activities of the Subject, or its power of meeting or opposing outside inducements or encroachments with its own indwelling specific energies; and this also can be satisfactorily demonstrated from observed motor signs. I have, on various occasions, shown how this takes place for protoplasmic individuals in general.

But the question that, in connexion with our present inquiry into the source and nature of mental activity, has now chiefly to occupy us, is: whether the specific perceptual motions, which may be aroused in an observer by our extra-conscious Subject during its moments of conscious awareness, are capable of revealing anything instructive concerning the activity here at play.

From what has, I hope, been clearly and decisively shown, it has become evident that, when I will to move my arm, it is not anything found in my conscious content which performs the action. The action is performed by my extra-conscious being or Subject. An outside observer of this action perceives, as his own sensorial affection, a moving arm. And this, his percept, with its motion, is a mere sign of the action performed by me, the perceived Subject. The perceptual arm, moving within the conscious content of the observer, can certainly not be the real arm of the Subject who performs the action. If there were a thousand observers, each would realise, as his own percept, a moving arm. The extra-conscious existence and activity of the one Subject would be accurately signalised within the conscious content of a thousand other beings. Now, it is evident that I myself, the Subject, as a sense-stimulated observer, am in exactly the same position as any other outside observer. When I perceive my arm moving, this perceptual revelation is merely the conscious sign of an actual performance emanating from my extra-conscious being. When I say, 'I am moving my arm,' the true meaning of such an assertion is, that my extra-conscious Subject is actuating a certain part of my being, which actuated part is consciously signalised to myself and others as a moving arm. What in the world could a perceptual arm moving within my conscious content signify to me, if it meant nothing substantial and efficacious beyond itself, if it were merely without extra-conscious significance the forceless, evanescent thing it actually is in a dream? Taken as a mere consti-

tuent of the conscious content, in connexion with nothing but other constituents, the perceptual motion of a perceptual arm would be uncaused, unconditioned and meaningless. And as with this perceptual arm, so with every other psychical phenomenon. Nothing whatever of conscious consistency has, as such, meaning in itself and for itself; nor can it ever be a cause or condition of any occurrence. It has meaning only in reference to extra-conscious existents, and is always caused by extra-conscious activities.

The belief that something within us of a conscious or psychical nature moves our limbs is one of those fundamental illusions of the intuitive mode of interpretation which lead to an entirely erroneous conception of the nature of our being. The ideas and feelings that in our conscious content stand for the volitional forecast and fiat, are merely the immediate central and inner awareness of the same organic process, whose peripheral outcomes are perceived as the movement of limbs by means of the eminently circuituous way of sense-stimulation and consequent awakening of specific percepts in observers. Surely our own inwardly realised ideal forecast and volitional fiat cannot possibly produce the movement of those perceptual limbs now present in the conscious content of any observer who chooses to witness the performance. Nor is it likely that ephemeral psychical phenomena, arising out of ideal latency, can have power to set going those definite molecular brain-motions of whose necessarily pre-organised matrix they are utterly unconscious. Evidently the same organic process within my extra-conscious being, whose central outcome is for myself an inner awareness of certain voluntary ideas and feelings, is also perceivable in the conscious content of an observer—first at its central starting-point as molecular motion of brain-particles, and then in its peripheral outcomes as the mass-motion of limbs.

The intimate connexion existing between emotions and thoughts and their peripheral expressions, a connexion so delicate and definite that, quite apart from its facial phenomena, so-called mind-readers are able to make out definite thoughts by merely noticing their unconscious expression through the muscles of the hand,—this one fact alone indicates with sufficient clearness that both phenomena—the inner awareness of the observed subject and the perceived muscular movements—are outcomes of one and the same organic process. No less indicative of the same kind of dependence is the connexion between thought and speech, a connexion so close that these two totally disparate

phenomena, the inner awareness and outer expression, are rightly looked upon as two different aspects of one and the same fact of nature. The one underlying fact is, however, not anything forming part of the conscious content of the thinking subject, nor is it the articulate expression as an observed perception, but the gradually established and definitely organised extra-conscious nexus, whose actuation gives rise to both.

Various psychological subterfuges are resorted to in order to obtain a permanent and efficient *psychical* matrix of conscious existences. It is, for instance, quietly assumed that the matrix of conscious emanation is composed of all possible psychical existences, having a nature identical with the constituents of actual consciousness. And these latent psychical existences are declared to be only partially or inadequately realised in each moment of actual consciousness; or they are considered too weak to rise above the threshold of such actual consciousness without being reinforced, either by actual stimulation or by the spontaneous activity of the subject. Surely it must be looked upon as a desperate stretch of introspective interpretation to suppose that something non-existent as constituent of the conscious content can be of the same nature as something whose existence and essence consists in forming part of the conscious content.

But if, on the one hand, it must be deemed a momentous mistake to maintain that something of the nature of the constituents of our conscious content is actuating what we call our body, it must, on the other hand, be deemed just as momentous a mistake to maintain, with some of our most prominent physiologists, that what we call our body is actuated by molecular motions starting in the brain and propagating themselves through the nerves to the muscles. These molecular motions are certainly out-and-out only perceptual signs in the observer, and they can, therefore, nowise be producers of the actions performed by the perceived subject.

Here it is relevant to remark that not all molecular brain-motions, which an observer might perceive as signs of those extra-conscious activities of the observed Subject that are accompanied by psychical awareness, signify sensorial or perceptual phenomena having reference to what we call physical nature. The most complex of those perceptual signs would, on the contrary, signalise such states of activity in the extra-conscious nature of the observed Subject as correspond to what is more exclusively called mental or spiritual life, which life is principally evinced by social emotions and their

expressions. The enormous incongruity obtaining, especially in this latter case, between the mere stir of material particles and the exalted feeling accompanying it, has led most thinkers to discard the idea of these two so disparate occurrences being connected by any necessary and indissoluble bond. Yet we have ample reason to conjecture, that to the meagre perceptual signs of the observer there correspond as their awakening cause in the observed Subject a marvellously high-pitched activity of a marvellously high-wrought existent, of which wondrous activity the Subject's own exalted mental experience is, moreover, another far more direct and adequate sign.

As signs conveying information regarding the characteristics and activities of extra-conscious being, the distinct percepts and their localised motions are, however, of the greatest importance to knowledge. We cannot doubt that our perceptual revelation—with all its vivid and minute distinctions, compelled in us by influences emanating from extra-conscious existents—does, so far as its nature allows, faithfully signalise specific characteristics of the compelling influences. Our being, wholly formed and specialised in living interaction with the outside powers, is sure to have its reactive efficiencies correctly attuned to the stimulating influences.

This is practically proved by the correctness of our work wrought upon *outside existents*, but executed under the guidance of our own *perceptual ideas*. The outside effect of such work, eventually signalised to us through changes in the compelled percepts, is found to agree with our ideal forecast. Our idea of a building to be erected, for instance, taken along with the compulsory percepts of the building when erected affords by itself sufficient proof of the accurate correspondence of our perceptual world to the world of extra-conscious and sense-stimulating existents. It would be absurd to maintain that it is the ideal forecast or anything else forming part of the conscious content that has wrought the changes in the outside existents. And it would be just as absurd to maintain that the changes had been wrought, not upon the outside extra-conscious existents, but upon our own percepts.

It cannot be too often repeated that all instructive science has reference to extra-conscious agencies. And this because without such reference there can be found no meaning in the congeries of facts and occurrences of the conscious content, nor can there be established any valid connexion between them. The assumption, for instance, that

our body as a mere *perceptual existence* stands in effective connexion with the rest of our conscious content, or, in other words, that the true modes of interaction and interdependence between body and mind are ascertainable as direct phenomena of the conscious content,—leads to inextricable psychological and philosophical confusion. It should be obvious that it is a slowly acquired knowledge by means of compelled percepts, presupposing the existence, and signifying the characteristics, of a permanent, extra-conscious reality—a knowledge present in the conscious content merely through remotely representative marks—that can alone enable us to draw valid conclusions regarding the connexion of what we perceive as our body with the rest of our conscious content. And, as all constituents of the conscious content are only specific marks of the characteristics of either outside existents or of the Subject's own extra-conscious nature, it is clear that all instructive interpretation of the conscious content has to take notice of what these more or less remotely representative marks in reality signify.

How, without extreme realistic suppositions, could we possibly conclude that our body, which as a perceptual phenomenon can never constitute more than a fragment of our conscious content, is, nevertheless, the true bearer of the entire conscious content? And, surely, this realistic conclusion can well stand its ground against the speculative conception, that our body has its true existence, and displays its true powers, during the time and in those relations in which it appears to us in casual glimpses as part of our conscious content.

From the considerations brought forward in the course of this discussion, it follows that the term "mental activity," if at all retained, has to be construed as signifying, not anything happening within the conscious content itself, but the functional play of all that part of our extra-conscious being, from which such conscious content is the supreme emanation.

III.—THE CLASSIFICATION OF PLEASURE AND PAIN.

By Henry Rutgers Marshall.

Each science marks its advances by an increased definiteness in the use of terms. Connotations are brought out clearly and either cut off as irrelevant or retained as inherent parts of the denotations. It will not be disputed that at this time Psychology as a science stands greatly in need of a more exact nomenclature and of a more common agreement among its workers as to the meaning of terms. This paper embodies an effort to gain definiteness in one direction; to render a little more distinct our conceptions, and a little more definite our terminology.

Fortunately, we start without any indefiniteness as to the subject-matter of discussion. All know what is meant by Pleasure and what is meant by Pain; but unfortunately this certainty of subject-matter goes very little way to help us in efforts towards mental orientation. That the terms relative to our subject are used with very vague meaning the most superficial view serves to show. The use of the word 'Feeling,' of which there has of late been so much discussion, may be taken as a typical example of English uncertainty. It is used by psychologists of the highest rank—Mr. James Ward, for instance—to indicate the field of Pleasure and Pain, and *that alone*. But Mr. Ward himself acknowledges[1] that the word has often very different meanings, not only for the ordinary man, but for psychologists also.

Not only is it used, in ordinary speech, now as equivalent to Touch, now as descriptive of organic sensations such as Hunger and Thirst, and again as the proper designation of the typical Emotions (anger, fear, &c.), but it is used by men of psychological authority to indicate the fundamental effect in all experience. It is used thus by Mr. Spencer in his *Psychology*.[2] Prof. James also uses the word in this

[1] *Encyc. Brit.*, 9th Ed., Art. "Psychology".

[2] *Principles of Psychology*, § 65. "A relation proves to be itself a kind of *feeling*—the momentary *feeling* accompanying the transition from one conspicuous feeling to another," &c. Mr. Spencer's free use of the word 'Feeling,' by the way, not unnaturally worries his German

wide sense. He says,[1] "We ought to say a feeling of *and*, a feeling of *if*, a feeling of *but*, and a feeling of *by*, quite as readily as we say a feeling of *blue*," &c. So also, as I understand him, Mr. Shadworth Hodgson would use the word 'Feeling';[2] and John Stuart Mill used the word in much the same way. It is, again, very common to find 'Feeling' used to cover not only the field of definite Emotions, but also the wider field of indefinite Sentiment. It is to be noted, further, that while 'Feeling' does not to all mean merely Pleasure and Pain, on the other hand Pleasure and Pain are themselves, as we shall presently see, classed very frequently away from anything which is ordinarily understood as 'Feeling'—notably with Sensation.

The German psychologists, as a rule, use the term *Gefühl* as exclusively equivalent to Pleasure and Pain; but it is not infrequent to find it here also used as indefinitely as by the English.[3] Wundt in his *Physiologische Psychologie* gives a section to "Empfindungen des *Gefühls*sinnes," meaning sensations of pressure, temperature, &c., and within a few pages gives us a chapter on "*Gefühlston* der Empfindung," in which he treats of Pleasure and Pain. The plural *Gefühle*, too, has many connotations which lead to indetermination.

If we turn to France we find a similar uncertainty. Dumont calls his study of Pleasure and Pain *Théorie scientifique de la Sensibilité*, while Prof. Delbœuf gives us his general theory of all consciousness as a *Théorie générale de la Sensibilité* also. If one wish to make further study of the indeterminateness of French terminology, one need but to turn to ch. i. of Bouillier's *Du Plaisir et de la Douleur*, where it is described with ample fulness.

It is clearly advisable from the start to avoid the use of terms which may create misapprehension. A word is sorely needed to cover the whole ground of Pleasure and Pain, and one which shall not carry with it hidden assumptions in directions which are open to question. The word 'Feeling,' which Mr. Ward would have us use thus, will not, in my opinion, serve this purpose. It is impossible practically to limit the meaning of the word to cover the Pleasure-and

students considerably; for most of whom 'Feeling' is thought as equivalent to *Gefühl* (cp. Stumpf, *Tonpsychologie*, p. 9).

[1] MIND ix. 5.

[2] Cp. MIND, xiii. 165.

[3] See Wundt, *Vorlesungen ü. d. Menschen und Thierseele*, ii., § 30; also cp. Volkmann in his *Lechrbuch d. Psych.*, p. 302 *e.g.*

Pain-modes only. It is too serviceable a word in its wider use to be replaced easily, and its verb 'to feel,' with a very broad significance, has become quite indispensable to the average English speaker. As we have seen, 'Feeling' has very different meanings for different people, and if it be used in the narrow sense, some reader is almost certain to carry into the writer's thought his own meaning of the term in place of that intended.

I shall use the term Pleasure-Pain to cover this ground, and if the repetition become wearisome, I must beg the reader to grant indulgence in consideration of the paucity of accepted psychological terminology.[1]

It will be well to make a cursory examination to see what classifications of Pleasure and Pain are made *naturally* by thinkers working in diverse paths, without special reference to Pleasure-Pain theory; perhaps we may thus obtain some guide. For this purpose, we must needs take some general classification which is supposed to cover the whole ground of psychic experience. As English speakers, we may in this preliminary view make use of Prof. Bain's classification—Sensation, Intellect, Emotion, Will—without being found fault with.[2]

First as to Sensation. As Mr. Ward has said, "most psychologists before Kant, and our English psychologists even to the present day, speak of Pleasure and Pain as Sensations". And this remark can only be called too

[1] There is a difficulty in this use of 'Pleasure-Pain' as identical with Mr. Ward's 'Feeling,' and the ordinary German psychological use of *Gefühl*, in that it may be understood to assume the non-existence of Indifference as a state allied to Pleasure and Pain. No such assumption is intended. The discussion of Indifference must be deferred for the present.

[2] I do not wish to indicate a belief in any such partial and distinct psychic action as may be inferred from the use of this division, *i.e.*, a belief that these classes of psychic facts are so clearly separated as to be found quite apart without overlapping in character and without co-incidence in time of presentation. But even if one avoid such a view, it is certainly true that our states of consciousness have at times such emphatic and comparatively distinct elements, that it is legitimate to let these emphatic elements give the name to the whole states. It is on this ground that, personally, I am willing to describe Emotions as the psychoses *of* the muscular actions of expression; [Darwin's school would say, "Expression is caused by emotion," Prof. James would say, "Emotion is caused by the expression": I leave this causal relation aside and merely claim concomitance, cp. MIND, Nos. 34, 36], and this not because any Emotion which I experience is that and nothing more, but because these muscular elements appear to me to be the ones which vary least, and which *fix* the psychosis so that it gains a name.

sweeping if it be made to imply a *deliberate* classification. Perhaps a few instances may be worth citing. M. Taine says "that in the nerves of muscle and skin there are three and only three kinds of sensation: those of contact, those of heat and cold, those of pleasure and pain".[1] Prof. Delbœuf[2] says that he considers that "la fatigue et la sensation sont des phénomènes de même nature et comparables". Fechner's method in the extension of the principle of *Schwelle* to the region of *Gefühl* seems to me to imply this classification, indicating a mode of thinking which transfers the laws discovered in some sensations to others of the same grouping.[3] Our English scientific writers who are not psychologists habitually use the term Sensation to cover Pleasure-Pain, more especially when speaking of Pain. Among psychologists, Lewes speaks of the "sensations of hunger, thirst, giddiness, . . . pain, &c".[4] Even so careful an analyst as Prof. James uses the expression[5] "Sensations of hearing, touch, sight and pain" in one of his late writings. Mr. Spencer's words would clearly indicate a similar identification with Sensation; where he says:[6] "Presentative feelings, *ordinarily called sensations*, are those mental states in which, instead of regarding a corporeal impression as of this or that kind, or as located here or there, *we contemplate it in itself as pleasure or pain*". Mr. Spencer here, however, seems to take out of the word Sensation all of its ordinary meaning; certainly all the meaning which is implied in the Sensation of Prof. Bain's classification which we are using. But on the other hand Prof. Bain[7] agrees to follow Mr. Spencer in a view which he attributes to him, making "Feeling the generic term of which Sensation and Emotion are the two species". This does not appear to me to be consistent with the words of either author in other connexions, but if it be accepted as intended to be the more exact statement of their view, we should be led to say that they identify Pleasure-Pain with Sensation *and* Emotion. Thus they form a link with those who would class pleasure and pain *altogether* as Emotions. In fact the theory held by

[1] *On Intelligence* (Trans., 1871), p. 137.

[2] *Eléments de Psychophysique*, p. 46.

[3] Cp. *Vorschule der Æsthetik.*

[4] *Problems of Life and Mind*, 3rd series, ch. iv., and elsewhere.

[5] MIND No. 45.

[6] *Essays*, p. 310.
Senses and Intellect, 3rd Edition, p. 668.

both Prof. Bain and Mr. Spencer, that Emotions are representative sensations, leads them both to use the word 'emotional' as equivalent to Pleasure-Pain with great frequency. Still they mean by Emotion in general what I mean, *viz.*, those states which are typified in love, fear, anger, &c. Prof. Bain especially emphasises the emotional connexion by treating Pleasure and Pain under the heading Emotions in his *Emotions and Will*.

Other writers who use the word 'emotional' exactly as he does are not so wide in the placing of the Pleasure-Pain limits. For instance Dumont[1] argues for the classing of Pleasure and Pain with Emotions, and Paulhan[2] uses them as interchangeable terms.

Among the Germans *Freud* is commonly coupled with *Schmerz*, and similarly in English it is very common to find the word Pleasure or the word Pain replaced by the designation of some pleasant or painful Emotion. Hume, for instance, says, "pity is an uneasiness, malice is a joy"; the word 'joy' being evidently equivalent to 'pleasure'.[3]

Turning from Sensation and Emotion to Intellect and Will, we find no similar tendency to class Pleasure and Pain with either member of the latter pair; no indication that they are looked upon *naturally* as of Intellect or of Will. On the other hand, however, we find no difference between the ordinary expressions for the relation between Intellect and Pleasure-Pain, and those for the relation between Sensation and Emotion, and Pleasure-Pain. People speak almost as commonly of Intellectual as of Emotional or Sensational Pleasure and Pain. The pleasures of judgment stand on the same footing as do many pleasures which are called purely emotional. The pains of physical fatigue evidently bear the closest relation to the weariness of constrained attention upon intellectual problems. The pleasures of the imagination are so important an element in some minds as to have been made by certain theorists the exclusive basis of Æsthetics. And passing towards

[1] *Théorie scientifique de la Sensibilité*, p. 24.

[2] *Phénomènes affectifs*, pp. 22, 95.

[3] An interesting instance of the tendency to identify Pleasure-Pain and Emotion may be seen in the answer made by Mr. Ed. Gurney (MIND No. 35) to Prof. James's article, "What is an Emotion?" A large part of Mr. Gurney's criticism seems to be founded upon an unstated argument which would read something like this:—It is evident that a large number of pleasures are *not* feelings of muscular character: —*but pleasures are emotions*:—hence emotions cannot be exclusively muscular in origin.

Will, apart from the theoretical connexion in antecedence and in result, there is evidently a close bond between Pleasure-Pain and the Will-act itself as expressed in discussions concerning the fixity of attention, the feeling of effort and similar topics. Still it is not a bond which to the ordinary man will appear strong.

The confusion which is here indicated is not lessened when one turns more closely to the consideration of definite Pleasure-Pain theory. One constantly finds difficulty in comparison of statements due to an underlying conviction that the opposed theorists are really writing of different things; perhaps of different parts of one subject, but without distinction of word. Contradiction of one honest thinker by another necessarily means that experience in the two differs or that words bear different meanings to the two. It is this condition of affairs which makes it important to reach a clearer agreement.

What has been thus far gathered may be roughly stated thus:—Whatever be the nature of Pleasure and Pain they are in one way or another connected with all the states of consciousness, which we have for our purposes considered under the divisions Sensation and Emotion—Intellect and Will: and the connexion is closer with the former pair than with the latter; so much closer, in fact, that there is a natural tendency to class Pleasure-Pain now with one and now with the other of the pair.

Apart from any theory which might make Sensation and Emotion developments of Pleasure-Pain, to which we recur later, it will be well therefore first to ask whether there be any strong ground for the classification with Sensation; whether any for the classification with Emotion.

One point of importance may well be presented here, though it be so commonplace that it ordinarily passes unnoticed, *viz.*, that Pleasure and Pain are invariably classed together. They are now called opposites—related as heat is to cold; now, Pain is looked upon as normal and Pleasure as its mere absence; and, again, Pleasure is normal and Pain its mere negation: but the bond between the two is never questioned. The ground for this lies in the fact that the two appear to arise in Consciousness as disparate parts of a continuum. One fades away into the other. Strong stimuli, if continuous, gradually fail in the production of pleasurableness and as gradually become pain-producers. One displaces the other, the two being incompatible.[1] It is

[1] In other words, no element of consciousness can be both painful and pleasurable at the same moment. It will be noted, however, that

the judgment of common sense: Pleasure and Pain are two states which are too disparate to be commonly known by any one word, but so inseparably connected that they must be mentioned in one breath. This community of character should seemingly lead us at least to hold that where we class the one there we must class the other also. We cannot with reason say, for instance, that Pain is to be classed with Sensations and then that Pleasure is an Emotion, still holding Sensation and Emotion to be diverse in character. This, however, is just what the ordinary man is *very* likely to do. It seems to me clear from common speech that the ordinary man naturally thinks of Pain as a Sensation and of Pleasure as an Emotion. This fact needs explanation, which I attempt below; but just here it serves to cast doubt upon any view which would class Pleasure and Pain exclusively with Sensation, as it also does one which would class them exclusively with Emotion.[1]

Turning to details: (1) Can Pleasure-Pain be classed with Sensation? A few facts seem sufficient to give a decisive negative. None of the typical sensations have the character which we have found in Pleasure-Pain of being aroused by the widest range of psychic occurrences; on the contrary, each has a very special means of production by which it and it only is brought into consciousness. The typical sensations do not habitually change from one form to another under continuation of conditions, as we have seen that Pleasure fades into Pain. Again, in the case of ordinary Sensations, within the limits of normal activity, increasing or diminishing intensity of physical stimulation brings corresponding alterations of psychic intensity, although the relation is complex and not simple. But with Pleasure-Pain the case is quite different. An increase of intensity of stimulus often at first increases a pleasure, then decreases it, then produces an increasing painfulness: a series of which we find no counterpart in sensational experience. Again, Sensations are connected with the action of distinctive organs acting in relation to the environment; but, in my opinion, nothing else than a preconception of the sensational nature of Pleasure-Pain can lead

this does not state that no *psychosis* can be both pleasurable and painful at the same time. To this we recur.

[1] Richet (*Revue Philosophique*, An. ii. 2) does not hesitate to proclaim that it is reasonable to accept the existence of a *centre* for painful sensation; but what indication is there of a *centre* for pleasure, I would ask; and yet under this view, if a centre be granted for one of the pair, one must be granted for the other also.

one, on the evidence thus far obtained, to a decided opinion in favour of special Pleasure-Pain organs.[1]

The definiteness — the distinctness — of Pleasure-Pain, especially in its Pain-phase, might indeed lead to comparison with Sensation. This view is emphasised by observation of the facts of Analgesia, which have been interpreted to mean that insensibility to Pain in general can be brought about much as insensibility to touch or to heat-impression may. The facts seem to me to be open to another interpretation, *viz.*, that the capacity to experience one form of sensation (*e.g.*, that of touch) in a part of our body may be cut off, together with the capacity for pain which goes with it, without cutting off in the same parts the capacity to experience other sensations (*e.g.*, those of heat) with *their* capacity for pain. If this be a correct interpretation, the most effective argument for making Pain a specific Sensation loses its force. It is to be noted, also, that we are unable to show, what we might expect under the ordinary interpretation, *viz.*, a method of cutting off our capacity to obtain Pleasure without cutting off also the sensation or other psychic phase connected with it.

On the whole, it seems clear that the essential characteristics of Sensation are not traceable in Pleasure-Pain; and yet this must not blind us to the evident closeness of connexion between the two.

(2) If Pleasure and Pain cannot properly be classed with Sensations, can they with any more propriety be classed with Emotions? Here the connexion may seem to many even closer than with Sensation. We constantly experience sensations which seem to be colourless as to pleasure and pain; but Emotion seems to not a few to lose its full meaning apart from one or the other. Still there are the strongest reasons for separating the two. If we accept Pleasure-Pain as emotional, what are we to do with Sensational Pleasures and Pains? We must hold in explanation of the facts that this double-faced Emotion is one which is capable of being brought out by any sensation, pure and simple, under favourable conditions. But what other Emotion acts in such a way? Do we find simple colours or pure sounds or tastes or touches each one by itself and all

[1] Mantegazza, in his *Physiologie de la Douleur* (ch. x.), after carefully going over the disputed ground, finds it necessary to acknowledge (notwithstanding a strong personal inclination to the contrary view) that science to-day does *not* admit the isolation of any special fibres for the transmission of pain. Still, he begs us to await the further advances of histology.

alike producing such emotions as fear or anger or love, as we know the sensations each and all to produce Pleasure-Pain phases? In fact, do we find any of them drawing out any one such typical emotion apart from all associative objectification? Certainly such is not the teaching of experience. To be sure, certain sensations have a close connexion with certain emotions: as red is the typical color indicative of the hostile attitude, and as minor chords have a tendency to produce sadness; but this fact is generally believed to be explicable as due to associative bonds with more or less definite objects which have in the past acted to bring forward the emotion. In fact, under normal conditions the typical emotions have as necessary antecedents the perception of objects. There is no fear proper without an object to fear; and, even in those abnormal cases where the emotion is artificially aroused without the antecedent thought of a real object, the one experiencing the emotion finds it very difficult and at times impossible not to imagine an object or objective condition acting upon him. But Pleasures and Pains show no such characteristic.

Some of the objections urged against the classification with Sensation, with certain shiftings of point of view, hold here also. Typical emotions do not run into one another as do pleasures and pains, upon the variation of intensity or continuity of presentation. Changes of intensity of emotion and differences of individual make-up bring alterations and differentiations of Pleasure-Pain phase—Emotion here acting exactly as does Sensation.

Again, if Pleasure-Pain be emotional, we are led to note that the Emotion is of a peculiar variety at all events: one which is brought into activity by the functioning of its companion emotions. But we know of no other emotion which is capable of acting as a stimulus to produce any one other emotion. Though "pity be akin to love," it is the fading away of one emotion and the arising of another which is described; not the production of one by the other nor the superposing of one upon another; Pleasure-Pain, however, in different forms *is* superposed upon the typical emotions, and alters in intensity and even in phase with their change of strength. Moreover, no emotion, if Pleasure-Pain be excluded, has the double yet single character which is here presented.

Bouillier, in his *Du Plaisir et de la Douleur* (see p. 87), presents an atomistic theory which would make Pleasure and Pain elements which in greater development become well-marked special emotions. He would make Pleasure

and Pain the simple forms of what in complexity or summation are the Love of Life and the Fear of Death respectively, the former of which he holds to be the greatest of all pleasures and the latter the greatest of all pains. That these two Emotions are respectively the greatest of pleasures and pains cannot be held above question. Certainly pessimism and suicide argue against the universality of the love of life as the greatest pleasure, and it cannot be granted that the fear of death is universally an all-engrossing pain.[1] In another direction insurmountable difficulty arises if one attempt the explanation of other emotions than Love and Fear; or if this be escaped by disclaiming the necessity for such explanations, it becomes equally difficult to deal with the generally acknowledged connexion between Love and Fear and the other emotions, and with the relation of these other emotions to Pleasure and Pain.

Whatever objection there may be to the classification of Pleasure and Pain with Emotion, it is to be noted, nevertheless, that here, as with Sensation, the connexion between the two is intimate.

Pleasure-Pain, then, is not Sensation, and yet is closely bound up with Sensation: it is not Emotion, but is closely bound up with Emotion also.

If, then, we see no trace of it elsewhere, we may expect to be able to identify it as a bond to connect these two great classes of mental phenomena somewhat after Mr. Spencer's manner. But, as we have already seen, traces in other mental fields are not wanting, for we find the best thinkers connecting intellectual states in the same general manner with Pleasure-Pain. Intellectual Pleasures and Pains are no meaningless terms: they are as full of actual import as are the phrases Sensational and Emotional Pleasures and Pains. We, therefore, must give up looking for Pleasure-Pain as of Emotion and Sensation, to the exclusion of Intellect, and at the same time there would be no possible justification for its subsumption under Intellect to the exclusion of Sensation and Emotion.

If subsumption under any of these great classes of mental phenomena be impossible, and still the bond with all be close, three different hypotheses seem to be open to us for the explanation of the observed facts.

[1] It is to be noted that Mantegazza (*Physiologie de la Douleur*, p. 78) thinks that the fear of death is of moment as a pain, but principally in old age. It may be that this fear is of greater weight among the Latins than among their neighbours in the North.

A. Pleasure-Pain modes may be the fundamental—the original—elements, the basis of all psychic life, from which other forms arise by development or transformation.

B. Pleasure-Pain modes may be psychic elements *sui generis* brought into consciousness indirectly by the efficiency of Sensation, Emotion and Intellection.

C. Pleasure-Pain modes may be *quales*,—which *may* arise with all psychic elements,—special qualities common to all mental phenomena.

Hypothesis A. is fascinating for one who by nature tends to look for monistic conceptions of the world of experience. In its widest form this view has found its most thoroughgoing defender in Horwicz, who in his *Psychologische Analysen* attempts to carry it out to its results through all mental fields. But his work, though filled with interesting detail and fine psychological analysis, has failed to carry conviction in the direction of its main theme among the best thinkers who have followed him. It fails for lack of satisfactory evidence. Were there no other objections, it seems to me that the diversity between the two phases pleasure and pain brings up an effective one. If Pleasure-Pain be the basis of all physic life we ought to find it possible to trace two distinct lines of development or transformation, one corresponding with Pleasure and the other corresponding with Pain. Such division of mental life, however, we nowhere find.[1]

Let us turn to hypothesis B.; *viz.*, that in Pleasure-Pain we have a mental series *sui generis*. This view has been upheld explicitly or implicitly by the highest authorities in the past, and does not lack supporters in our own time. It may be stated as Wundt puts it: "Das Gefühl ist der Zustand, in

[1] From one point of view Mr. Spencer may be called a defender of hypothesis A. considering his wide use of "Feeling" and his apparent identification of "Feeling" with "Pleasure and Pain"; but his use of the word "Feeling" is so obscure (cp. *Psychology*, § 65, with his definition of "Feelings" and then of "Presentative feelings—*ordinarily called Sensations*" in his Essay on "Bain on Emotions and Will") that one can scarcely feel justified in calling him an advocate of this view.

According to other statements, Mr. Spencer might be said to hold to such a position only in part (and here Prof. Bain might be held to follow him—see *Senses and Intellect*, 3rd Ed., p. 668) in making "Feeling the generic term of which Sensation and Emotion are two species". It seems to me, however, that the same objection is effective against such a narrower generalisation which holds against the wider. We should be able to divide our Sensations and our Emotions on lines of development or transformation of Pleasure and of Pain which Mr. Spencer makes no attempt to do, and which Prof. Bain distinctly states to be impossible.

welchen die Seele durch ihre Empfindungen und Vorstellungen versetzt werde":[1] "the subjective complement of objective Idea". This view Wundt accepts with the note that even here we have an "Erkenntnissact" at the start; the primal fact being that "wir empfinden"; the product of which in becoming objectified into ordinary "*Empfindungen*" involves a subjective aspect, which is "*Gefühl*".[2] This view, as I understand it, is founded upon the acceptance of Pleasure-Pain phases as psychic elements *sui generis* which are brought out by the activity of all sorts of *Empfindungen* and *Vorstellungen*. The same general position seems to be implied in Mr. Ward's statement that each state of mind is irreducible beyond the three facts — Attention, Feeling, Presentation.[3] Prof. Dewey, in his lately-published *Psychology* (p. 247), expresses the same notion in these words: "Feeling is unique and unsharable . . . cannot be defined . . . can only be felt"; and still later, Prof. Ladd[4] tells us: "Feeling is an original and underived form of consciousness or mode of the operation of conscious-mind"; "Feeling can never be stated in terms of knowledge: the nature of feeling is not capable of being defined, it must be felt".[5] It would not be difficult, it seems to me, to show in Prof. Bain too a tendency at times to take this position B. Under "Emotions of Intellect" he treats of the operations of Intellect *as giving occasion to* a certain select class of feelings; speaks of "the trains of contiguous association"

[1] *Phys. Psych.* (3rd Ed.), i. 542; cp. 543.

[2] Cp. *Vorlesungen ii. d. Menschen- und Thierseele.* It would seem scarcely proper to refer back to this early work for Prof. Wundt's view, if he did not do so himself even in the last edition of his *Phys. Psychologie* (p. 543, note). I must confess that I am not able to reconcile his statements in this regard. His acknowledgment of the *Erkenntnissact* in *Gefühl*, grasping or anterior to it, would appear to place his view under hypothesis C., were he not so emphatic in the complete separation of *Gefühl* and *Vorstellungen*. I note, however, with gratification that in the revision of his great work there are indications of a change of view in the direction of hypothesis C. Note the opening paragraph of the chapter on "Gefühlston der Empfindungen" (p. 508), where he has added to the text of his 2nd Edition the words: "Beide [Lust u. Unlustgefühle] sind *qualitative* Zustände". There are other indications of the same character. The lack of clearness is doubtless due to the fact that he approaches the subject from another standpoint than the one here taken.

[3] *Encyc. Brit.*, Ed. ix., art. "Psychology".

[4] *Elements of Physiological Psychol.*, p. 504.

[5] *Ib.*, p. 499. I will not stop to inquire how it is that we can bring the matter of Pleasure and Pain under intellectual analysis at all, if their grasp by us is so completely apart from knowing.

as presenting "no special *stimulant* of the Emotions". "The element of feeling, or pleasure and pain viewed as such," he elsewhere says, "enters into *alliance* with the more intellectual states of mind," &c., as though it were a matter entirely apart from them and brought out in some way by their action.

The same position is implied in all theory (and here Prof. Bain's stand is decidedly affirmative) which looks upon Pleasure-Pain modes as always present with or in all psychic elements, Indifference being a third Feeling phase rather than the absence of Feeling: a theory which seems to me to be the outcome of an acceptance of hypothesis B., but otherwise untenable.[1] But the attempt to fix definitely such a view on any thinker is not so important as is the question as to the validity of the position. In the first place, its acceptance looks a little like the clinging to a remnant of the old faculty-psychology, so attractive because it cuts off all necessity of treating the particular mental phase with reference to other divisions of the psychic stream or to the stream as a whole. This should put us on our guard, although, of course, it will not lead us to discard the view if other objections do not arise. The principal foundation for the acceptance of hypothesis B. is laid in the supposed subjectivity of Pleasure-Pain, its lack of objectivity, "of localisation, of elaboration into percepts or intuitions of the external".[2] Here I am unable to follow, although it is naturally with great diffidence that I raise objection against, the high authorities who support this position.

There is no doubt that subjectivity is ordinarily easier to grasp in the region of Pleasure and Pain than in other mental regions, and this is a fact demanding explanation; but I am unable to draw any line in this respect between Pleasure-Pain and other mental states. Those who ponder

[1] The view that there is no such thing as Indifference except as balance of Pleasure and Pain, where *balance* means *neutralisation of one by the other*, does not at the first glance seem necessarily to imply this theory B.; but, as we shall see below, the theory of balance is not easily brought into relation with hypothesis C., and that makes its acceptance also dependent upon the acceptance of B.

[2] J. Ward, *Encyc. Brit.*, Ed. ix., art. "Psychology". Cp. Volkmann, *Lehrbuch d. Psych.*, ii. 300. Also Wundt, *Vorlesungen*, ii. 14, where he says: "So bald man einmal die Beziehung auf einen subjectiven Zustand fallen lässt, so waltet kein Grund mehr, die dann noch übrig bleibenden Gemüthszustände zu einer gemeinsamen Klasse zu vereinigen".

much over psychological matters fail to find it difficult to think of sound or light as subjective; in fact, to think it objective becomes difficult, and yet how hard a thing for the common mind to grasp! On the other hand, we are losing all the true meaning of objectification and localisation if we fail to consider that objective and localised which we *place* in definite parts of our body, as we do constantly with Pleasure-Pain. But what if one distinctly places a pain clean outside of his body, as one does who thinks he feels pain in a limb which has been amputated? It is to be noted also here that an objectiveness of the Pleasure-phase is tacitly accepted by no less an authority than Kant when he separates the pleasure of the beautiful from the merely agreeable on the basis of the universality of the former. This universality is surely an objectification.

The argument for subjectivity as a mark of Pleasure-Pain looks something like this. The ordinarily acknowledged "qualities" of presentation are found to make up the basis of objectifications. Now on the theory adopted there can be no separation of the object without also a separation of the subject, and, as the elements already discussed become notably objective, one must look for the necessarily correspondent subjective elements; and Pleasure and Pain being notably subjective, they are held to be specially subjective elements. It is evident that this argument is based upon a preconception, objectionable because it is a preconception; *viz.*, that there must be a special *kind* of activity for subjectiveness. Again, there stands against the theory the fact that there is an opposition between *Empfindungen* and Pleasure-Pain, an apparent tendency for one to exclude the other, which seems to me to be an unlooked-for fact, to say the least, under a theory which calls for a subjective mind-operation of disparate character to correspond with each objective mind-operation; and yet we find authorities speaking of the two points almost in one breath.[1] The *superior* subjectivity, "innerness," of Pleasure-Pain, even if granted, does not appear to me to be a sufficient ground upon which to base the acceptance of such a hypothesis as B. Subjectivity, in fact, is not so much of the *matter* of what rises into consciousness as it is of its *reflective form*.[2]

[1] Cp. Wundt's *Vorlesungen*, ii. 6. Strange to say, Wundt explains the apparent exclusion exactly as he does the exclusion of one *Empfindung* by another on the ground that we can only grasp one idea at a time in an *Erkenntnissact*.

[2] Evidence of this, and at the same time an argument against the exclusive subjectivity of Pleasure-Pain, is seen in our ordinary argument

There stands opposed to this hypothesis B. the fact already noted that thinkers of high ability (to pass over ordinary men) do not find themselves *naturally* taking this view that Pleasure-Pain forms are mental modes *sui generis*, but on the other hand *naturally* endeavour to relegate Pleasure and Pain to other classes of mental forms.

Again, under such a theory as B. we should, from the standpoint of the physiologist, naturally look for a very distinct form of nerve-organ, the action of which would be found concomitant with the presence of Pleasure-Pain. This not being found, we are forced into one of two positions. Either (1) we have here reached the point where the action is that of the whole soul, above all organs—a view which must be entirely unsatisfactory with our modern views of the relation of mentality to the physical basis, and which will be found objectionable also because it implies a break —a separation among mental modes of which there is elsewhere no evidence. Or (2) we must say that there *is* a concomitant in the action of a special kind of Pleasure-Pain organ, but that we have not yet been able to discover this organ; and then we meet with other equally serious objections. In the first place, such a position seems incompatible with the acknowledged primitive nature of Pleasure-Pain. Surely its special organ ought to stand out emphatically. Again, if there be an organ stimulated by the action of the organs of other psychic modes, what shall we say of the relations of Pleasure-Pain to intensity? It is not easy to understand why a certain degree of intensity in one sense-organ *a*, differing widely from the intensity in another sense-organ *b*, should nevertheless be able to produce the same sort of activity in the hypothetical Pleasure-Pain organ: a series of *mental levers*, so to speak, with varying lever-arms must be postulated to explain the facts; and of the existence of such quasi-levers we have no adequate evidence. This objection becomes more difficult

for the physical basis of mind. What really happens is this. A certain complex psychosis arises of sufficiently definite and fixable nature to have a word correspondent which is "the present action of sense-nerve"; but this after all is still a mental complex and nothing more, so far as we are here concerned. It however has the characteristic of objectivity. "Sensation"—a comparatively simple and isolated psychosis which also arises when the complex psychosis "present action of sense-nerve" arises:—has *not* this objective aspect, and hence we learn to look upon the action of nerve as the objective condition of mentality which is subjectiveness. But it is to be noted that this subjective thing may be, and as usually studied is, as far as possible purely colourless as to Pleasure and Pain.

to contemplate when we pass out of the region of pure sense into the wider emotional and intellectual fields. The difficulty, to be sure, may be glossed over to some extent by the assumption of the Indifference-phase, which, if it have no other value, has the advantage which always comes with the raising up of a cloud of mist behind which the credulous may be easily led to picture all manner of wonders. It enables one to surmise that in that field of Pleasure-Pain of which we know nothing, if we could but see it, we might find the explanations of the parts which we do see. But to one who discards the Indifference-phase and believes in it as merely a name for presentation where pleasure and pain are absent, or to one who believes it to be mere balance between Pleasure and Pain, there is no such comfort. Moreover, it is not easy to accept the hypothesis of a definite Pleasure-Pain organ without looking for *special* organs for Pleasure and for Pain, or even for the special varieties of Pain if we are unable to bring ourselves to class the uneasiness of cravings with the anguish of tissue-destruction; and such specialisation should have led to the discovery of some one of the organs, and this discovery again to the localisation of all. It is needless, however, to say that here too our evidence fails us. In fact, the lack of favourable evidence is the greatest obstacle which stands in the way of the acceptance of either of the hypotheses thus far touched: preconceived theory has been responsible for their elaboration, and not an analysis of fact or evidence forced upon us from experience.[1]

If, after the objections which appear, this lack of evidence is accepted as conclusive, it forces us to turn to hypothesis C.—*viz.*, to hold that Pleasure-Pain modes are *quales* of all mental states.

At the start it will be well to take some pains to get at the meaning of this with clearness. Hypothesis C. would make Pleasure-Pain modes primitive *quales* which may appear with any mental element; simple primitive Ideas

[1] It is not unlikely that some one may ask, What becomes of the distinction which common sense expresses as existing between "head and heart," if we make no broad distinction between Pleasure-Pain and the *quales* of Presentation? This question itself implies the subsumption of Pleasure and Pain under Emotion, which is what is really meant by the word "heart"; and this subsumption we have abandoned. The distinction between "head and heart" is a true one: it is a phrase expressive of the opposition between Intellect and Impulse: what I would also call for is the separation of Pleasure-Pain from Impulse, and its acknowledgment as a *quale* of Impulse as well as of the purer Intellectual operations.

in the Lockian sense, and therefore correctly classed by him;[1] simple primary differentiations of presentation which are grasped by us essentially after the same manner in which we know the mind to act in other directions, but in the most primal form of such action.

It is possible to look upon all special simple presentations, as we experience them, as differentiations of some original primal form of presentation which in truth we can only speak of theoretically because we must grasp it *as* presented *in* its differentiations; our mental fields are too late a development to appear apart from *all* differentiations. Now there are some differentiations, some *quales*, which have become so distinctly marked as to be clearly classifiable; being thus distinct because they are determined by a *limitation* of the presentative field, by the action of the presentative organ (so to speak) on limited and narrowed lines, *e.g.*, light-presentations, sound-presentations, taste-presentations. All are presentations, *quales* if you will, of the hypothetical primal presentation, but quite distinct, quite apart from one another, and not to be confounded. There may be further differentiations of these specific *quales*, as colour under light, but the specific character always remains; blueness is always of light, never of sound. Now hypothesis C. would not place Pleasure-Pain as a special member of any such limited and definite differentiation of presentation, but as primary *quales* which affect *all* presentation, however wide, however narrow, somewhat after the manner in which we grasp the notion of Intensity as being common to all presentation.

Any theory which would place Pleasure-Pain on a par with the narrowed differentiations looks in the direction of hypothesis B. which we have discarded.

It is perfectly true then, as Mr. Ward says, that "Pleasure and Pain are not simple Ideas, as Locke called them, in the sense in which touches and tastes are"; but I would hold that they *are* Lockian Ideas for all that, although *not* "in the sense in which touches and tastes are".[2] The distinction is important because it really is little other after all than the distinction between B. and C. If the view which Mr. Ward attributes to Locke be correctly attributed, he was an

[1] *Essay*, bk. ii., ch. 20.

[2] Locke may or may not have meant what Mr. Ward seems to attribute to him. Under my view he was wrong if he classed Pleasure-Pain with sensational Ideas, but right to use the term in his wide sense as applied to pleasure and pain.

upholder of hypothesis B. But the limited *quales*, as it is convenient to call them, are clearly connected with distinct differentiations of nerve-organ, which cannot be confounded on their physical or mental sides. Now, as we have already seen, no such organ appears for Pleasure-Pain, and this fact would be enough of itself to lead us to make a distinction between the two positions.

At the very beginning of our examination of hypothesis C. we find encouragement in the fact that the objections which appeared against hypotheses A. and B. do not hold.

That psychic life is not divided on the lines of Pleasure and of Pain is no objection to a view which makes Pleasure and Pain *quales* of *all* presentations composing our psychic life as we know it; for the distinctly marked-off psychic states are not supposed to be developments from the Pleasure-Pain modes, but states still subject to these qualifications.

No special nerve-organ, and no distinct differentiations of such organ or organs, is to be looked for to account for *quales* which relate to the whole field of mental life, for their physical conditions, whatever they be, must be looked for in all that which we learn to look upon as the physical basis, in all of nerve which is necessary for mentality, whatever special parts are for any one moment called into activity. Each case of distinct presentation may thus be said to bring forward its own Pleasure-Pain organ, so to speak, fitted to act under proper conditions.

The varying relation of Intensity to the degree of Pleasure-Pain arousal in different organs loses its force as an objection as soon as we take this view and cease to look upon its modes as produced in concomitance with action in a special organ or organs stimulated from without. In the cases mentioned under the discussion of hypothesis B, our difficulty disappears with the realisation that we are dealing with a real difference of Pleasure-Pain organ, if we may so speak. Other difficulties of the same general nature also here find explanation. A stimulus which now produces the same Pleasure-Pain phases (or a definite succession of phases) in two sets of presentations, as taste and smell, again on another occasion produces a very different phase or succession of phases in the two organs. Or again: a flow of thought brings change from pleasure to pain in rapid succession without any apparent orderliness. Such facts hypothesis B. fails to render comprehensible. With the *quale*-hypothesis, however, the difficulty disappears; for we find in each case either a shifting of the field of presentation,

which brings, as it were, new Pleasure-Pain organs into play, or else a lapse of time during which it is easy to conceive that there may be an alteration of the conditions upon which the Pleasure-Pain phase depends.

But beyond the fact that these objections do not hold against hypothesis C., there is much corroborative evidence in its favour. The view is confirmed by the already noticed everyday use of terms, not only among those who are not of a scientific bias, but, what is of more moment, among thoughtful men in all spheres of effort, *viz.*, the indiscriminate application of Pleasure-Pain terms to all mental phenomena, whether elementary or complex. The study of the views of theorists shows similarly broad use of terms and great diversity of view. Such diversity of dogma at the first glance appears perplexing; but an examination must lead to the suspicion that we have here merely the effective influence of the thinker's 'personal equation'.

The emphatic Pleasure-Pain field varies in different people; indeed, shifts from year to year in the same person; and this naturally leads to the conjecture that the theoretical exclusion of certain psychic fields from participation in the Pleasure-Pain *quales* is due to the actual lack of emphasis of the Pleasure-Pain quality within these fields in the theorist himself. Quite in accord with this position is the fact that a mental bent (which is implied in the strenuous holding to a theory) itself indicates a tendency to more than average mental activity in the direction covered by the theory. But it is super-normal activity in ordinary which is emphatically pleasurable or painful, and we should therefore *expect* our strenuous theorist to find *his* Pleasure-Pain field just about where he describes it as being, and nowhere else so emphasised as to be specially noticed.

Again, the hypothesis seems to be the *natural* one to accept, if for no other reason than because it will bring the phenomena of pleasure and pain into unity with all other mental phenomena. We no longer have the mind grasping Pleasure-Pain in a manner apart from its grasp of presentation; but we look upon these phenomena as differentiations *of* the presentation, mind functioning here not otherwise on general lines than it does with all differentiations.

This view is also corroborated by the aid it gives us in the conception of the make-up of hedonic complexes, especially to an æsthetic result, for we here learn the important fact that any presentation may be pleasurable and may go to make up, under proper conditions, a part of an æsthetic totality.

I do not despair either of our being able some day to catch the meaning of the inferior objectivity of Pleasure and Pain. It is objectivity in the narrow sense with which we deal in reaching this notion, *viz.*, that *distinct* objectivity which has to do with the gathering together and unifying of disparate elements; and Pleasure-Pain modes do not present the conditions which would bring this *distinct* objectivity into prominence, while their *contents* do. If one follow Mr. Shadworth Hodgson in attributing the specific character of "subjectivity" to "the *passing of* a content into a distinct perception" as opposed to "the distinct percept into which it has passed," he finds ready an explanation of the greater *Gefühl*ness of subjectivity (to reverse the ordinary statement), for there can be no question as to the superior activity and vividness, and therefore superior Pleasure-Pain colour of the mental processes involved in the coming to a relatively fixed mental position, over those involved in the relatively fixed mental position which is reached. A fuller explanation, moreover, appears to be adumbrated in the contrast, already noted, between the limitation of the presentative field in the case of sensational *quales* and the width of field open to the production of Pleasure and Pain.

Now I myself feel convinced that many of the best thinkers of the past would have assented to this view had it come before them in the form in which it comes to us in our line of thought: they have approached the consideration of pleasure and pain from standpoints (mainly ethical) which have not called for an analysis on the lines here taken up.

Thinkers of to-day speak for themselves; and, judging from the drift of general writing on these subjects, I have some confidence, notwithstanding adverse statements on some sides and silence on others, that the answer of a good part of our modern psychologists would be favourable to the acceptance of this hypothesis of *quale*. Still, although I think it is widely tacitly assented to, there are a number of its implications which are not generally noted and accepted. To some of these I have already called attention; and in closing I would note a few more points of the same character.

We may consider what hypothesis C. has to tell us of Representation as applied to pleasure and pain.

Revival is determined by a return of original conditions. Under hypothesis C., then, revival as applied to Pleasure-Pain strictly means merely the recurrence within the wide bounds of presentation of the conditions of the particular Pleasure-

Pain phase under consideration. But this is clearly not usually meant when *representation* of pleasure or pain is spoken of. A revival of some definite presentation is thought of. As far as Pleasure-Pain revival is connected with such definite presentation, *re*presentation means a reappearance of some presentation under the same conditions relative to Pleasure-Pain production which held when the presentation was original. But it must be noted that the revival of the presentation (*i.e.*, the re-presentation) will not *necessarily* bring the same Pleasure-Pain phase which held when the original presentation was before the mind, if the conditions upon which Pleasure-Pain phase depends be altered when representation occurs. The original presentation may have been painful while its revival may be neutral or pleasurable, if the proper conditions differ in the two cases.

Most people, however, speak of a revived pleasure or of a revived pain as if it were either a mental state *sui generis*, which is revived apart from any presentation, a view which we have already decided against; or else as if the Pleasure-Pain phase were an inherent part of the presentation or necessarily connected with it,[1] so that revival of the original presentation (its re-presentation) could only occur in the same phase as that which coloured the presentation. But experience denies such a notion. We ought in fact to speak of a pleasant representation, not of a representative pleasure, and similarly of pain.

It is upon this unfounded position in regard to representation that must rest any theory which would make Emotions a complex of revived Pleasure-Pain states, a product of Pleasure-Pain summation, after the manner of Jas. Mill and Mr. Spencer and their followers.[2]

For the theory is entirely without force unless the Emotion, which is a psychosis of comparative fixedness, is made up of elements which have a similar fixed character, and this implies the acceptance of either hypothesis B.[3] or the

[1] As a late expression of this view, compare Prof. Dewey's *Psychology*, p. 286. To speak of representation of Pleasure or Pain in this sense is quite like speaking of representations of Intensity.

[2] Höffding in his *Psychologie* makes a statement of this view (to which he holds) in what seems to me to be its best and most attractive form, but brings no new or effective arguments to prove the position. In fact, the theory in all its statements rests upon dogma rather than upon proof.

[3] It is hard to see how so complex a thing as an Emotion could be formed by summation of such simple mental elements as hypothesis B. would imply Pleasure and Pain to be. The most we should expect

invalid position that Pleasure-Pain is an unchangeable part of the presentation making up the emotions. Some such view as this seems to me to be also implied in Fechner's application of the principle of *Schwelle* to the region of *Gefühl* as involved in his principle of æsthetic *Hülfe*. That two pleasures may occur apart without coming into consciousness, and yet when occurring together may make a sum of pleasure strong enough to arise above the threshold, implies that pleasures are Ideas in much *the same sense* in which tastes and touches are, and this places his view under B.[1] The objection is not to the acceptance of a subconscious region of *Gefühl* but to the treatment of this hypothetical field. In the objectionable treatment Pleasure-Pain is looked upon as stimulated by action in the other specific mental regions, and thus subject to increment by action of disconnected diverse elements. I would hold that pleasure and pain, being *quales* of all presentation, the Pleasure-Pain increment in each case of limited presentation must be in the line of that part (x) of the mental presentative field which is before the mind; that the added functioning, with Pleasure-Pain phase, of another disparate portion (y) of the presentative field will not act as an aid nor as an obstruction to the first Pleasure-Pain quality (x), but each must stand on its own merits; that x itself must alter in its action if its Pleasure-Pain quality is to alter, and so of y; that thus it is quite conceivable that there may stand side by side one presentation of the pleasurable phase and another of the painful phase, or two presentations of like phase, without acting upon one another in the direction of increase or decrease of Pleasure-Pain intensity, although acting to increase or decrease the apparent 'fulness' of the predominant phase, that is, its continuousness with the shifting of the presentative field and throughout the wide region of the field apart from the *Blickpunkt*.

Here an interesting side-light is cast upon the problem of Indifference; for under this view it is impossible to hold a neutralisation of Pleasure by Pain as we could if we were to accept hypothesis B. Were Pleasure and Pain modes *sui generis*, we might imagine the two sets of mental *lever arms*, which seem to be demanded, as acting in opposition

from such summation would be an increase or decrease of Pleasure or Pain; for, as Aristotle says, "Pleasure is a certain whole" the form of which cannot be perfected by any time-process nor by any process of summation of elements. The same may equally well be said of Pain.

[1] See *Vorschule der Æsthetik*, pt. i. pp. 50 ff.

to prevent the Pleasure-Pain organ from functioning, or might surmise that one stimulus counteracted another to the production of the neutral result. But under the *quale*-theory each pleasure and each pain exists of itself in and with its own *content*. A pleasure and a pain may exist at the same time in consciousness, or a complex of presentations which are pleasures and a complex which are pains, side by side, so to speak, at the same moment, as we often find it in experience; but it cannot be granted that fusion is possible, or neutralisation of one by the other. If one such complex arises clear above and to the exclusion of the other, it is not because it has absorbed its opposite complex in any quasi-mechanical sense, but because of the change of the field of attention. We all know how we often find the field of consciousness shifting back to the lately hidden Pleasure-Pain complex (explaining it thus instead of thinking it due to the failure of the previously effective absorption-capacity), and in such cases it must be noted that the presentative field shifts also.

That there is a state of neutrality between pleasure and pain is acknowledged in the mere statement of the problem of Indifference.

To call this Indifferent state a state of Feeling seems, as I have said, to imply theory B.; explaining Pleasure-Pain as due to the functioning of an organ which must be active always in one way or another. It seems more consistent with hypothesis C. to hold that presentation may exist without any Pleasure-Pain quality as a purely neutral state, the conditions, as yet ill-defined, of the rise of both pleasure quality and of pain quality being wanting. That all mental states which lend themselves to the emphasis of reflection are Pleasure-Pain-coloured is beyond question; but if hypothesis C. is to be held, we must think of presentation as the primal fact of which Pleasure-Pain modes are primal qualities, and this gives us ground for holding the primary and essential existence of presentation *per se*, apart from these *quales*.[1] If this view of the existence of neutral presentation apart from Pleasure-Pain *quales* be accepted, it would also prevent the acceptance of any theory which

[1] It is not necessary here to decide whether this neutral field is more or less wide or whether it is narrow and merely appears wide in some instances because the pleasurable or painful qualities are brought out in too low a degree to be emphatic. I favour the latter position, and am glad to feel that in this whole view of Indifference I am in substantial accord with the position taken by Mr. J. Sully, as indicated in his late addition to the discussion of this problem in MIND.

would make either phase the essential one: the opposed phase being a mere mark of the other's absence.

Neither the theory of pessimism, which makes pain normal and pleasure its absence, nor the theory of optimism, which makes pain the abnormal and pleasure the normal state[1]—neither can be held to be in accord with hypothesis C., which would lead us to make the difference between pleasure and pain dependent upon real difference of condition, and to name both as *positive* states. If the two are incompatible, this must mean merely that the conditions in the two cases are incompatible in the same organ at the same time.

The Herbartian view, if it can be made to stand against its objectors (which I think impossible), will not be disturbed by hypothesis C., which would merely make the application of the theory as wide as consciousness. Similarly, hypothesis C. seems to me to present no opposition to theories which would explain pleasure as the mental side of efficiency and expansion, and pain as the mental side of lack of efficiency and contraction (Ward); nor to a theory that pleasure indicates equilibrium and pain departure therefrom (Delbœuf, Spencer); nor to that which makes pleasure equivalent to a tendency to persistence and pain to a tendency to change (L. Stephen, Bradley). Whatever is to be said *pro* or *con* may be argued quite within the lines of the *quale*-hypothesis.

It may be well here to inquire how it is that men make the ordinary classifications of Pleasure-Pain with Sensation, Emotion, Intellection, which we noticed in the beginning. An explanation seems not difficult to find.

The word 'Feeling' or the word-complex 'Pleasure and Pain' carry necessarily a mental content; and this content differs materially with different people.

When I ask myself what I mean by 'Feeling,' the general field of the contents of representation to which 'Feeling' is attached in my experiences tends to arise and does arise more or less distinctly. When you ask yourself the same question, another field of contents than such as mine arises; and so it is with each individual. Again, the associative revived horizon connected with the *word* 'Pleasure' is made up of all the more or less dim revivals of those mental states which are pleasurable for us. So the associative revived horizon connected with the *word* 'Pain' is made up of all those more or less dim revivals of what are pains to us. In both cases the focus, so to speak, of

[1] Cp. Mr Bradley's article in MIND No. 49.

this pain- and of this pleasure-horizon is made up of those mental states which are the most common sources of the more vivid pains and pleasures respectively. In the case of pain, these sources in general are, in my experience, without question the presentations of Sensation, with Emotions of the most active sort holding a second place. In the case of pleasure there is no such special line of vividness, although the emotional field holds an especially strong position. It is most natural, therefore, that when we raise the *words* pleasure and pain together, their *common* associative horizon should be most distinctly marked, and that they should usually be classed as Emotions. When we take them separately we should expect to find, as we do, that *pain* is commonly spoken of as a Sensation, and *pleasure* as an Emotion.

It seems to me that the grounds for accepting the hypothesis of *quale* are ample, and the view, if correct, ought to help us in the determination of the general laws of Pleasure and Pain. One result alone seems to be of sufficient importance to warrant this discussion: *viz.*, if the hypothesis be accepted it will be possible to trace the laws of Pleasure and Pain in one special class of mental states which are elementary and to a great degree fixable, so that we may feel sure that during the examination our Pleasure-Pain field does not shift; we may then look for the application or modification of these laws in the other regions of mind which are less clearly defined.

It may not be too much to hope that the doctrine here advanced may help us towards a knowledge of the physical basis of Pleasure and Pain, which we naturally should look for in some conditions or modes of activity relating to the whole of the nerve-tissue whose action apparently forms the basis of all mental life.

In closing, I must turn again to the matter of terminology. It is evident that if the position which is here defended be the correct one—if pleasure and pain are distinct qualities, which may attach to any mental element, and do not involve any special mental mode—then we no longer have need of any word to cover the whole region of Pleasure and Pain and the hypothetical region of Indifference. 'Feeling,' therefore, to the great relief of ordinary men, may properly be retained in its present wide use to cover *any* particular mental action in the sense in which it is used by Mr. S. Hodgson, Prof. W. James, and Mr. H. Spencer.

In ordinary, the use of the word Pleasure, and of the word Pain, or of the couplet Pleasure and Pain, will be satisfactory

in place of the word 'Feeling,' as Mr. Ward would have us use it.

A word is perhaps needed to designate certain states which are ordinarily and roughly called Emotional (and which would be called Pleasure-Pain states under the terminology which I have used in what has gone before): states of mind in which the Pleasure-Pain quality is the only thing which we can grasp; in which the balance of attention is so perfect that no special "contents" appear in the mental field, the pleasure- and pain-qualities being emphasised by their continuance and by what may be described without misconception as a process of summation.

It is not unnatural that the word 'Emotional' should be roughly used to cover this ground, for so large a part of our emotional life is made up of this vague Pleasure-Pain field without any emphatic content. The tendency in the future, however, will be, I believe, to limit the use of the word 'Emotional' to the description of those well recognised states (love, fear, hate, &c., &c.) which seem to be fixable by their content of muscular sensation, and it is not desirable, therefore, to attempt to use the word 'Emotional' to describe the vague region connected with those more definite states. Perhaps the best word at command for this purpose is the word 'Sentiment,' although it is open to the objection that for many it suggests the emotion of love in one way or another, a strained and unnecessary connotation, and one which we may easily cast aside.

It will thus be perfectly proper to speak of the feeling of Pain and of the feeling of Pleasure; to say that one feels an Emotion and feels a Sentiment.

IV.—DISCUSSION.

RELATION OF FEELING TO PLEASURE AND PAIN.

By Hiram M. Stanley.

Should the term Feeling be made to include certain states of consciousness which are neither pleasurable nor painful? Or should all such neutral states be designated by some other term? We are concerned here with an important matter of definition which implies an extensive analysis of consciousness with reference to pleasure and pain. It will not be difficult to find many so-called feelings which are neutral, or seem to be so; but it is the duty of the psychologist to carefully analyse all such states, and point out the proper use of the term Feeling.

Common observation neglects minute analysis, and is unreliable when it speaks of certain indifferent states as feelings. When a man speaks of feeling queer, or strange, or bewildered, or surprised, and says that the state of mind seemed neither agreeable nor disagreeable, we may suspect that by a perfectly natural tendency he is extending the name Feeling to closely-connected states of cognition or will. In identification and definition common observation is for all sciences notoriously untrustworthy, and especially in psychology; so on this question the evidence of language and popular testimony counts for little one way or the other. This is strikingly evident when people speak of feeling indifferent as to some matter, meaning that they have no feeling on the matter. The term Feeling is used in such a broad and vague way that 'I feel indifferent' means 'I am indifferent,' 'I have no feeling'. The mistake here is in using the word Feeling as an equivalent to Ego, or any quality of Ego. A feeling of indifference is no feeling at all. Popular evidence then, I believe, can be no guide in this matter. In passing, I may also say that the very abundant use of analogy by some writers on this subject seems to me ill-advised. Analogy does very well to bring up the rear, but it is often very useless and confusing as an advance-guard.

Prof. Bain (Mind No. 53) insists that ideas tend to actualise themselves by neutral intensity or excitement, which is feeling; or rather, he says, a "facing-both-ways condition". This last expression is certainly not very helpful or satisfactory. Prof. Bain admits that typical will is incited by pleasure and pain, but he maintains that sometimes, as notably in imitation, will is stimulated by purely neutral excitement or feeling. In the discussion of this subject much has been said about Excitement, and, as Mr. Sully has suggested, this requires careful definition.

Reflection assures us that every mental activity has a certain intensity, and the word Excitement may, in the most general sense, denote this intensity. The intensity may be so slight as to be unnoticed by the subject, and remain wholly unindicated to the keenest observer; or it may be so strong as to be perfectly evident to both; or it may be evident to the subject and not to the observer, or *vice versâ*. Thus the obvious division of Excitement from this point of view is into subjective, where it is immediately recognised and felt in the consciousness of the subject, and objective, where it is unnoticed, or noticed only by observer. Classifying by another principle, we may distinguish Cognition-intensity, Feeling-intensity and Will-intensity, and the natural subdivisions under these according to the accepted subdivisions of mental activities. Excitement is not, however, generally used in the large sense we have just mentioned, but as denoting intensity of a high degree so as to be very noticeable to the subject, or observer, or both.

It is plain that Excitement, as subjective intensity, is the only kind which bears on the question under discussion. It is with excitement as a feeling, *viz.*, the feeling of intensity, and not with excitement as quality of feeling, that is, intensity, that we have to deal, and it is necessary that this distinction be clearly borne in mind. One may be excited but not feel excited, may have intensity of feeling but not feeling of intensity. Using the term, then, as equivalent to feeling of intensity, it is to be noted that it is a reflex or secondary mental state. It is the feeling resulting from consciousness of intensity of consciousness. The intensity of any consciousness may increase to such a point that it pushes itself into consciousness, first as mere recognition of intensity, but immediately and most manifestly as feeling of intensity. In rapid alternations of contrasted states, as of hope and fear, intensity soon rises to such a degree that it forces its way into consciousness as feeling of intensity. This feeling of intensity may be itself either weak or intense. In very reflective natures, the cognition and feeling of intensity may be reflex at any power: there may be cognition of the intensity of cognition-of-intensity, &c., in indefinite regression. Most persons stop with the single step in the regression.

It is evident that as far as excitement is regarded merely as intensity, as a fundamental element in all feeling and mental action, it is a confusion of terms to apply quality to it, to speak of it as either pleasurable, or painful, or neutral. Intensity of mental action has degrees but not quality, just as pitch in sound has degree, but not timbre or quality. Regarding excitement as feeling-of-intensity, it has the general characteristics of all feelings, and is not more likely to be neutral than any other feeling. Taking the case of surprise, which is so frequently instanced as a neutral feeling, let us analyse it with special reference to the excitement as feeling of intensity of cognition. A typical case would be the surprise from hearing thunder in

January. The presentation is quickly compared with a representation of observed order of facts, and the disagreement of the two marked. This is so far purely cognitive activity; but immediately connected with the perception of disagreement is the forcible recognition of the breaking up of a more or less rigid order. There is a disturbance in cognitive activity and the tension breaks into consciousness as excitement, the feeling of intensity. The conflict of a settled conviction with recent presentation intensifies consciousness, and this intensity with the abrupt change in quantity and quality of mental activity breaks into consciousness as intellectual sense of shock accompanied and closely followed by feeling of unpleasantness and pain. It is to be noted that when we come upon the feeling-element in surprise we find pain. Surprise in the strict sense is then the reflex act of consciousness in which the mind becomes aware of and feels the sudden disturbance and tension set up in itself by the sudden weakening of an established belief. The painful shock has some relation to the force of the disturbing factor, but is more closely connected with the strength of the belief assailed. The feeling of the disagreement as pain is due to the fact that this disagreement impinges on subjectivity, personal opinion and conviction, and the disturbance will be more or less disagreeable according to the degree of personal interest. Note that by exact statement the feeling is not painful, but is the pain concomitant or resultant upon the mental perception. The surprise for a person of rather weak habit of mind and of little generalising power will be almost wholly intellectual. Disagreement will be noted, but not felt. For one of strong intellectual interests, the surprise will mean definite and acute pain. For a meteorologist who has written a book stating that in this latitude thunder does not occur in January, the surprise might be very grievous. The intellectual element in surprise is emphasised in the statement 'I am surprised,' the feeling-element in 'I feel surprised'. If antecedent states of representation, comparison and inner perception are placed under the term feeling-of-surprise, we may expect consequent states to be likewise easily confused. When one speaks of being agreeably or disagreeably surprised, the pleasure or pain is not really, however, a part of the surprise. The sense and feeling of intellectual destruction, which constitutes surprise, is so quickly and thoroughly swallowed up in pleasure in having hope realised, or in pain in having fear realised, as the event may prove, that the term is naturally applied to what engrosses attention. Thus, 'It was a very pleasant surprise' means 'The surprise was followed by very pleasant consequences'. When I am surprised by the arrival of an intimate friend whom I supposed a thousand miles away, the mental disagreement, and the pain from conflict of conception and perception, are quickly eliminated by the event according with desire, and by the mind anticipating joys. We see, then, how easily the antecedents and consequents of surprise

are confounded with surprise itself, which is the reflex act of consciousness recognising and feeling sudden disturbance in intensity, quality and quantity in cognitive activity. I conclude that surprise, as feeling, is pain coloured by cognition of shock and by volition to avoid disturbing element.

Absorption in thought may be attended by what seems to be neutral excitement, but is not really so. The intensity of thought may press into consciousness as a knowledge and feeling of intensity, but so far as it is a feeling it is indubitably pleasure or pain. This pleasure or pain may remain as continuous undertone with frequently repeated intrusion into full consciousness. Careful analysis in this case shows that apparent neutrality results from a strong attendant recognition, or from the natural volitions being quickly overruled by feelings consequent upon other considerations. Intellectual men are not apt to be guided by excitement. Prof. Bain says that imitation is a test-case, that this is a volition which is obviously stimulated by neutral feeling. In some cases imitation seems clearly a mechanical, ideo-motor affair, an instinctive action without either conscious feeling or willing. In all other cases of imitation analysis will show excitant pleasure or pain. As Preyer and others have shown in the case of young children, mimicry arises mainly from pleasure in activity as such, and not from its peculiar quality as imitation. For children, and often for adults, imitation is simply a method of joyous and novel activity. The stimulant in higher grades of imitation is pleasure in attainment. As far as excitement is stimulant, it is, on the general principle before stated, either pleasure or pain. The pleasant feeling of intensity will tend toward continuance of imitative action, the unpleasant toward discontinuance. The pleasurable sense of activity, as inciting and continuing will in imitation, is a good example of excitement as feeling of volition-intensity.

If volitional excitement as instanced in imitation, and cognitive excitement as exemplified in surprise and absorption of thought, cannot be termed neutral, it is quite unlikely that we shall find any neutral feeling-excitement. A person at a horse-race may at first have so small a degree of pleasurable hope and painful fear aroused that the intensity does not force itself into consciousness. The increasingly rapid pendulum-swing of consciousness from hope to fear and back again becomes soon so intense that this objective intensity of feeling forces its way into conscious life as feeling of intensity. This excitement may be mainly regarded as accompaniment, or it may be valued in itself as excitement for excitement's sake. This absorption in the feeling of intensity is eagerly sought for by the *ennuyé*. The devoted theatre-goer often induces both pleasures and pains simply for this resultant feeling of tension which he regards as enjoyable for its own sake. Feeling-excitement in the simpler and earlier form and in this later artificial form is plainly

pleasure or pain coloured by slight element of cognition as recognition of intensity, and by volition in continuing or in stopping the causative activity.

. Bearing in mind the analysis of excitement just made, the true interpretation of several matters which have been suggested is obvious and clear. Mr. Johnson (MIND xiii. 82) remarks that very intense mental pleasure and pain tends to run into a state of neutral excitement. This I interpret as the mental law that intensity of any mental activity, of any pleasure or pain, tends to displace this activity by feeling of intensity. This feeling of intensity is indeed neutral as regards previous states—that is, it is not, of course, the feeling whose intensity it feels; but, as I have sought to show, it is nevertheless always pleasure or pain. Again, as to the question whether states of mind equally pleasurable or painful may have different degrees of excitement. If excitement means here subjective excitement, then I answer that they do not have any degree of excitement, for feeling of intensity can never be a quality of the feeling whose intensity is felt. If excitement is the objective form, and refers to the intensity in general, then, as has been before said, it is a confusion in terms to apply the terms pleasure and pain to it. The anticipation suggested by Mr. Johnson as a case of neutral excitement is precisely analogous to the case of excitement at a horse-race, which has been analysed. Mr. Johnson concludes that feeling is not only more or less pleasure or pain but also more or less excitement. The proper way of stating this is: all feelings, including the feeling of excitement, consist of pleasure or pain and have degrees of intensity. Again, let me note the relation of intensity, and consequently feeling of intensity, to quantity of consciousness—a subject suggested by Mr. Sully (MIND xiii. 252). The fundamental properties of consciousness —quality, quantity, intensity—and also their inter-relations, would be a fruitful theme for extended discussion. I think that the clearing-up of many problems would result from thorough investigation and careful definition in these points; but at present I can only offer a remark or two upon the subject. It is plain that intensity varies with different qualities, that certain kinds of mental action are more generally characterised by high degrees of intensity than others. Presentations tend to higher intensities than representations, and pains than pleasures. It is noticeable that our psychological nomenclature, both popular and scientific, is mostly concerned with qualities, which shows that quantities and intensities have not received the attention they deserve, and have not been carefully discriminated. A representation of the same house comes up in the minds of two persons, one of whom has lived in it, the other merely seen it several times. Each psychosis is as representative as the other: they have the same quality, but in quantity and intensity they vary greatly. In a single multiplex act of consciousness, the former embraces a wide reach of detail and association and a

high degree of intensity which is lacking in the meagre and faint image of the latter. Physiologically, quantity is as the mass of co-ordinate coincident activities of brain in highest centres, and intensity is as the arterial and nervous tension in the highest centres. Intensities may be equal, and quantities very unequal; as compare one greatly interested in a game of cards with a person watching a near relative at a critical moment of illness. Intensity of pleasurable hope alternating with painful fear may be equal in both cases, but in quantity the larger nature of the friend will greatly exceed. Very quiet natures are often characterised by largeness of quantity of consciousness. Other things being equal, intensity tends to reduce quantity and obscure quality of consciousness. Quantity, like intensity, may cause a reflex act of consciousness when it becomes so great as to push into consciousness as recognition and feeling of quantity; and as a feeling of largeness, elevation and mental power it is clearly distinguishable from excitement as feeling of intensity. Intensity is dependent on the force or strength by which a mental state tends to persist against other states which may be crowding in, and it is also closely connected with rapidity of mental movement; but it is primarily tension, consciousness at its highest stretch, specially as touching upon interest, an element more or less involved in all consciousness.

It would seem highly desirable, in order to keep clear the distinction between intensity and feeling-of-intensity, to restrict the term Excitement to the latter meaning, and substitute the general term Intensity for all objective excitement so-called. It is also greatly to be desired that the reflex states which arise from sudden or great changes in quality, quantity and intensity of consciousness, and which are commonly termed feelings, should receive more general attention from psychologists than heretofore. I have in this paper essayed something in this direction, but it is a very large field, and comparatively unexplored.

However, so far as the problem of feeling as indifference is concerned, enough has been said on Excitement and Intensity, and I shall now consider Neutralisation as giving neutral feeling, a method suggested by Mr. Johnson (MIND xiii. 82), and developed by Miss Mason (xiii. 253). Does a feeling, neutral as regards pleasure and pain, result from the union in one consciousness of a pleasure and pain of equal intensities? Is there a composition of equal mental forces so that resultant equals zero? Such a question implies a clear apprehension of what is meant by being in consciousness, and as to the possibility of perfect coincidence and equality in mental activities. It is plain that so far as consciousness is linear, neutralisation cannot occur. Where there is but one track, and but one train at a time, collision is impossible. Mental states often appear coexistent while they are really consecutive. It is doubtful whether pain from toothache and pleasure from music ever appear in absolute synchronism in consciousness, but they may alternate so rapidly sometimes as to

appear synchronous to uncritical analysis. To a man drowning, a lifetime of conscious experience seems condensed into a few seconds. This means a consciousness made very sensitive and very rapid in its movement, and which acts like a camera taking pictures with a lightning-shutter. Even if a pleasure and pain did coincide, it is probable that in no case would they be exactly equal. In mental life as in organic life every product has an individuality: as every leaf differs from every other leaf, so every mental state is on completest observation *sui generis*. This is evidently a most delicate investigation, but I doubt whether it can ever be shown that two equal pleasures and pains ever appear in the same sense in consciousness at the same time. Practically equal pleasures and pains in consecutive consciousness lead to vacillation, and the secondary pain of alternation and excitement drives intelligent agents to new activity, or in stupid agents the alternation may be carried to exhaustion.

It is undoubtedly true that consciousness, in all the higher forms at least, is a complex; yet full and complete consciousness is probably of one element only, and the remaining portion of the nexus grades off into subconsciousness and unconsciousness. There is a network of coexistent states of consciousness in different degrees in mutual reaction, each striving for dominance but only one at a time reaching it. Some portions of the nexus, as Ego-tone, are quite permanent elements. The light of a large and brilliant consciousness may illumine a considerable area, but brightness most certainly diminishes in rapid ratio as the distance increases from attention, the single point of greatest illumination. A highly developed brain may sustain a highly complex consciousness, but it is only at the point of highest functional activity that we find the physiological basis of a full consciousness. While high grades of mental life are so complex, we do not find anywhere a mental compound. Two diverse or opposite elements never combine into a compound which is totally unlike either. Close analysis will fail to reveal any process of neutralisation or combination whereby we experience neutral states of feeling.

I have endeavoured to set forth the real nature of certain so-called neutral feelings; but at bottom the question is, as was at first intimated, a matter of definition. Is it best to restrict the term Feeling to pleasurable and painful states of consciousness, or is it advisable for clearness and definiteness to widen the use of the term so as to include certain neutral states? From such analysis as has been made, I doubt the advisability. Appeal in such matters must always be made to analysis, and the advantage must be shown for a concrete example. The *a priori* idea or general impression that pleasure and pain is too small a basis for all feeling has no real weight. Moreover, it must always be borne in mind that psychology like all other sciences deals only with phenomena and not with essences, not with mind but with mental manifestations, not with feeling as mental entity having

properties, being pleasurable, painful, &c., but with these qualities in and for themselves. Thus the metaphysical fallacy hidden in such common expressions as pleasurable and painful feelings is to be constantly guarded against. The feeling is not pleasurable or painful, but is the pleasure or the pain. The feeling has no independent being apart from the attributes which in common usage are attached to it, nor is there any general act of consciousness with which these properties are to be connected. As indicated at the beginning of this paper, this common tendency has its psychological basis in the bringing under the term Feeling some of the more permanent elements of consciousness—especially the Ego-sense—which stand for metaphysics as beings and entities having properties. Knowledge, Feeling, Will, are for nominalistic science simply general terms denoting the three groups of mental phenomena which seem to stand off most clearly and fundamentally from each other, and Pleasure and Pain are most clearly and fundamentally set over against Knowing and Willing. It does not seem that Prof. Bain and others have made plain to us any better differentia.

If this definition of Feeling seems the best that descriptive classification can give us, it is certainly enforced by genetic considerations. The key to a really scientific classification lies in the history of mind in the individual and race. The greatest progress in psychology is not to be attained by the psychologist continually reverting to his own highly developed consciousness, but, as in all sciences, the study of the simple must be made to throw light upon the complex. Mentality like life is a body of phenomena whose forms cannot be separated by hard and fast lines into orders, genera, species; but there is a continuous development of radical factors. In the earliest forms of mind we find the most radical distinctions most clearly and simply set forth, and what Feeling is at first, it is by continuity of development the same for ever after. The earliest indications of conscious life show merest trace of apprehension of object, some organic pleasure and pain, considerable striving and effort. Mental evolution, like all evolution, is not by the elimination but by the expansion of its primal factors; and by the continuous amplification and intensification of these the highest development is reached. Pleasure and pain remain then for all consciousness as constant factors, and if the term Feeling is to indicate one element in tripartite mind it must be held to this meaning of pleasure and pain. Pleasure and pain in their most complicated colourings from developed knowledge and will, and in their most subtle interactions, remain true to the primal type; and when we find a state of consciousness in which neither is a dominant factor, we had best denote it by some other term than Feeling. This evolutionary reason seems to me the strongest one for making the term Feeling signify states of pleasure or pain, and, as I have suggested (MIND xi. 74-5), a genetic classification of the feelings must proceed upon this basis.

DR. MAUDSLEY ON THE DOUBLE BRAIN.

By Professor J. M. Baldwin.

In his article "The Double Brain," in Mind No. 54, Dr. Maudsley makes three points, which may be stated logically thus: (1) the brain, as the organ of thought or consciousness, is capable of dual activity, this duality making it impossible for us to find unity of mind in the representative processes alone; (2) real unity is to be found in the affective or sensitive life, which (3) finds its basal principle of unity in the organic unity of the body, *i.e.*, in the nervous system. These points are closely interwoven, and present an account of the mental life to which spiritualists generally take broad exception. It is my purpose, however, simply to indicate a few considerations from a psychological standpoint which tend to show that Dr. Maudsley's physiological data do not suffice for the interpretation he gives them.

The facts bearing upon the dual nature of the hemispheres, and the functional interpretation of them which Dr. Maudsley gives, are conceded from the outset. It seems to be established that, besides the common functional activity of the hemispheres, that area over which they both have dominion, there is a residuum of motor function belonging to each alone, and that each may assume the performance both of the common function and of that which is peculiar to itself. It is when we pass on to consider "how the hemispheres act toward one another in thinking" (p. 166),[1] that is, how they are related to each other as respects consciousness and its unity, that the question of psychological interest arises.

In answering this question, Dr. Maudsley first cites the case in which we attempt to perform movements clearly involving the separate action of the hemispheres, as the performance of different movements with the two hands. He says (p. 166): "If a person who is performing one kind of act with one hand and another kind of act with the other hand will endeavour to think of both acts at the same moment, he will find that he cannot do so; although he can execute the respective movements simultaneously he cannot think them simultaneously; he must pass in thought from one to the other, a rapid alternation of consciousness takes place. The alternation, though rapid, is by no means instantaneous; it is distinctly successive, since there is an appreciable pause in the performance of it." After excluding other alternatives, such as the coexistence of two different consciousnesses, he concludes that "there remains . . . the supposition of an alternating action of the hemispheres corresponding to the alternating consciousness". This alternation,

[1] All page-references are to Mind No. 54.

he goes on to say, gradually yields on the part of the hemispheres, through repetition and education, to the uniting of the hemispheres in simultaneous activity as a single organ (p. 166), but consciousness preserves its method of "extremely rapid alternation". The conclusion, therefore, as respects intellectual unity, is that we find no basis for it in the functional activity of the hemispheres.

This conclusion may be true, but the analysis it employs of the psychological unity of the states involved is so meagre and false that we cannot take it alone with us in our search for the true principle of unity. By consciousness in this connexion Dr. Maudsley seems to mean *attention*. It is true that I cannot attend to the two movements at once, that my attention alternates usually, even when the movements are simultaneous; but it is not true that I may not be conscious of the two movements at once. Recent experimental work in determining the area of consciousness establishes the contrary. Repetition, also, tends to make the two movements elements of a single state of consciousness, just as repetition tends to make the hemispheres a single unit organ. A simultaneous consciousness is not a "distracted or dual consciousness," but an integrated consciousness, a new state, whose elements arise from previous states. Attention is a state of monoïdeism, but consciousness is not.

Now this integration of states in consciousness is possible only on the basis of a fundamental unity of mind, as necessary to the intellectual life as organic unity is to the members of the body in the variety of their physical functions. If I move my right thumb to the left, is the movement my only consciousness? Am I not simultaneously conscious that it is my thumb, my movement? Are there not unnumbered, organic, detached and stray peripheral affections bound up with the act or with its very conception? And when I shift my attention and move my right thumb to the left, is there a pause in my consciousness of *all* these things? I am just as conscious of my thumbs, of my organic affections, of myself between the movements as during them, and a simple change in my motor experience can in no sense be said to create a pause or break in my consciousness. Each hemisphere, instead of contributing a separate consciousness, contributes an element of content to my simple consciousness, a motor element.

And further, attention itself, as a principle of active unity, is dependent upon the complexity of the mental life. The selecting, relating, unifying, disposing function of attention has been so emphasised in recent discussion that it is needless to dwell upon it. In consciousness it is the outgoing of efficiency, the self gaining the ascendancy over the complex of its presentational life and asserting the principle of oneness which is its own nature.

I have thus briefly touched upon the elements of conscious mental unity which analysis seems to give, and which demand

explanation whatever hypothesis we adopt: first, a subjective reference of all mental modification, both motor and sensory; secondly, the subordination of conscious *incidents*, past and present, to the permanent fact of consciousness, which remains as the background of their flow; and thirdly, the grasping and disposing energy of attention, which is *always one*. The class of movements hitherto spoken of, those controlled by the different hemispheres individually, with no co-operation, bear only upon what I have called above *incidents*, and not upon the higher aspects of mental unity.

If the case rested simply upon this class of movements, Dr. Maudsley might make it stronger by extending the difference of function, not to the two hemispheres alone, but to each of the motor areas within either hemisphere. The centre for speech, for example, is distinct from the other motor areas. We can perform the movements of the speech-organs and the right leg simultaneously, but cannot attend to them simultaneously until a close association is brought about by education. Hence, as before, motor states lack unity, and even within the function of *one hemisphere*. From this aspect we have not two brains (centres), but perhaps a dozen. This tends to bring out our contention, that the unity of the mental life is not touched at all by the functional subdivision of the cerebrum.

Dr. Maudsley next proceeds to consider those movements in which the hemispheres co-operate: they "combine to dictate different movements of the two sides for a common end, just as the eyes combine their different visions of one object". The question here is this: "From what higher source do the hemispheres obtain their governing principle of unity? How is it that, when dictating different movements, they yet have an understanding to work together to a common end?" And the answer is again, that the unity of the motor consciousness is an educated unity, and that, like two acrobats, the hemispheres learn to perform together "by much travail and pain".

This is true, and its importance can hardly be estimated; but, again, it must be criticised from the standpoint of what it leaves out. We are forced at once to inquire, Whose is the "end or aim in view," "the conception or foresight of the act, its ideal accomplishment"? Certainly it is not the conception of the hemispheres themselves, though the figure of the acrobats would lead us to think so; for how could such a conception be acquired by either hemisphere before the action had been actually performed? And if then acquired, how could it be intercommunicated without a central bureau of consciousness, at which the progress of the co-ordinated movements might be apprehended and recorded? The conception which precedes all effort at motor execution is itself a fact of unity, higher mental unity, an ideal unity of the motor consciousness, to which the complex activity of the motor apparatus is to be reduced by long and wearisome effort. Here, again, is the outgoing of the self in its

relating and efficient activity, perceiving the many while itself is one, relating the many in an ideal which is one, and reducing the many to the unity of a foregoing ideal plan. Here, as in the former case, I find no fault with the account of what takes place in and for the motor consciousness, but cannot see how this consciousness can be considered for itself alone in independence of the higher thought-consciousness, in which alone the idea of motor co-operation can germinate and bear fruit. And the conclusion is that mental unity is, potentially at least, antecedent to co-ordinate movement.

The other figure which Dr. Maudsley uses in this connexion makes the case still plainer. He says the hemispheres are related to each other in such co-ordinated movements as the eyes are in binocular vision, their early binary images being reduced in experience to a unitary perception. Let us suppose that the eyes are the seat of consciousness, and that at first they did not give a single image. Then, either each eye has its own consciousness, or there is one consciousness for both eyes. If each has its own consciousness, there would be no consciousness of the discrepancy between them and no means of remedying it. If, on the other hand, there is one consciousness for both eyes, the unifying co-ordination of the images would be in virtue of this consciousness and not in the eyes themselves. It is only in the interpretation of a unit consciousness, which renders both images possible, that they can be reduced to the form of vision which is its ideal conception.

The mental unity, therefore, which is to be explained is something more profound than the simple consideration of the motor consciousness would lead us to expect; and it remains to ask whether the organic solution offered by Dr. Maudsley is adequate.

The two great questions here involved are these: Is the "unity of the intellectual life based upon the unity of feeling," and "this again upon the unity of the organic life"? These propositions are so comprehensive that one's opinion is what one's entire systematic thinking has made it, and I can only advance a general consideration or two in opposition to the equally general considerations of Dr. Maudsley.

First, the same line of argument by which Dr. Maudsley proves the absence of unity in the motor consciousness applies with undiminished force to the affective consciousness as well. Can we attend to two simple sensations in the peripheral organs at once—say, a taste and the pain of a wound on the hand? Not at all. The case is just the same as when we attempt to attend to two movements on different sides at once. There is the same alternation of attention, until the sensations become united in a single attention-complex. The emphasis of single affective states in the adult life is open to the same charge of psychological atomism as we found attaching to the similar isolation of motor states. Indeed, simple feelings of movement are *themselves affective states*, being simply intensive, and the argument in

regard to them applies to all states of the affective order. The feeling of effort which is bound up with feelings of movement is quite distinct in its nature, and seems, as has been said, to indicate a higher plane of intellectual unity, which Dr. Maudsley leaves quite out of account.

Secondly, we may well notice that either the manifoldness or the unity of feeling could not be apprehended as such in the absence of a circumscribing consciousness which, through its own unity, takes it to be what it is. Suppose we admit that in the beginnings of life the inner state is simply an undifferentiated, sensory continuity, what is it that *feels* or *knows* the subsequent differentiation of the parts of this continuity? It cannot be the unity of the continuity, for this is then destroyed; it cannot be the differentiated parts, for they are many. It can only be a unitary subjectivity additional to the unity of the sensory content, *i.e.*, the form of synthetic activity which reduces the many to one in each and all of the stages of mental growth. The relations of presentations as units must be taken up into the unit presentation of relation—to express what modern psychology means by apperception; or the "mechanical connexion" must become the "presented connexion"—to use the terms employed by Mr. Stout in MIND No. 53.

Thirdly, it is difficult to see how higher intellectual unity can find its basal principle, its originating cause, in the unity of the body as an organism. Admitting, with Dr. Maudsley, that ideas are a matter of organisation, that thought is the progressive organisation of residua,[1] I yet maintain that we never go outside the unity of consciousness to find these residua. There can be no such thing as a residuum except as it is the same in nature as that of which it is a residuum. However far back we go undoing organisation, we never get outside the subjective. Admitting, further, that the body is also an organisation, and an organisation which proceeds in the most intimate progressive parallelism with that of mind, we cannot, from this single fact, reduce either to the other. Mind remains an unexplained thing for itself until the following positions are proved: (*a*) That the law of organic and morphological growth of mind finds its proximate ground in the growth of body. That is, that the methods of physical organisation run also into mental organisation. Now, as a fact, the great principle of mental organisation, apperceptive synthesis, finds no counterpart in nature: its products have no objective realisation in the synthesis of physical organisation. It seems, as Lotze says, to be unique. (*b*) That there is a correlation of mental and physical force, a principle which Dr. Maudsley everywhere assumes, but nowhere, as far as I know, attempts to establish. (*c*) That the mind in its progressive organisation does not exhibit autonomic energies of its own, but owes its existence to its psychophysical connexion; and, further, that the

[1] The general doctrine of Maudsley's *Physiology and Pathology of Mind.*

twofold aspects of unity, mental and physical, are not themselves members of a third underlying principle to which they are both secondary—and which *may be mind*.

Contemporary thought is tending, I think, to the recognition of the fact—as wholesome to the idealist as to the materialist—that personality is one; that it includes mind and body in organic union; that mind is not mind without an object, and an object is not an object without mind; that a within is as necessary to a without as a without is to a within; and that rational unity lies deeper in the nature of things than either the empirical unity of the atomistic psychology or the functional unity of the nervous system.

'THE SENSES' IN A COURSE OF PSYCHOLOGY.

By G. Lyon Turner.

I suppose it will be admitted as a matter of fact that the phrase 'The Senses' has usually been taken in one of two ways—either as identical with 'The organs of Special Sense' or as practically equivalent to 'Sense-Perception'. In the first or narrower meaning, only such attention has been paid to 'The Senses' as is necessary to the understanding of Sense-Perception; and this latter has very generally been described as 'Perception *by* or *through* the Senses'. Now it is to the manner in which the latter subject has usually been treated that I would direct attention, with the view of suggesting an alteration of method in one or two vital points.

That 'Sensation' is the basis of 'Perception' all are now agreed. Even Hamilton distinguished between Sensation proper and Perception proper, though he failed to put them in their right relation to one another. Prof. Bain has brought into their right prominence the various classes and varieties of Special Sensation; and Mr. Sully has distinguished them as an element which must be supplemented by an Active Intellectual element before they can yield any true Perception.

But sufficiently patient and careful analysis of the Intellectual processes which must be superinduced upon Sensation has not yet been given. Prof. Bain seems scarcely to have realised that a distinctly *intellectual* element was necessary before any real Perception could result, or he would not have so sharply separated 'The Senses' from 'The Intellect,' nor have made them include so much of Perception as he actually has done. And even Mr. Sully has failed to point out the many Intellectual elements which are necessary for the formation of the simplest 'Percept,' and so has failed to place Perception in its proper relation to Memory and Imagination, and all three in their due relation to Sensation. In a 'Discussion-note' there is space only for the most condensed statement of conclusions. The meagrest exposition of reasons

would demand much greater space than can be here allowed. Suffice it then to say that careful analysis of the Perception of any strange or unfamiliar object—and the object must be unfamiliar for the analysis to be distinct and complete (else some component elements and constituent stages of the processes will be found to have been suppressed or dropped out of consciousness) —will reveal the following distinguishable stages or elements :—

1. First, there must be a careful determination of the exact *kind* of sensation experienced, alike in *quality*, in *intensity* and in *quantity*.

Now this preliminary question involves the distinctly Intellectual process of Comparison—a comparison tacit, if not conscious, with all other Sensations of the special sense concerned.

2. But this Comparison involves the twin faculties—so central and essential to all Intellectual processes whatever—of Recognising Similarities and Discerning Differences, and results in Classifications more or less minute and in general notions corresponding thereto.

3. For the complete formation of such Classifications, however, and for the determination in the case of any particular Sensation of the kind or class of Sensation to which it belongs, two other faculties or processes must be brought into play, *viz.*, Memory and Imagination: Memory, to recall the numerous varieties to be classified ; Imagination, vividly to realise their probable surroundings and relations.

4. Furthermore, the faculty of Naming or Language is an absolute necessity to preserve the Distinctions observed, the Similarities traced, and the Classifications effected, as a permanent treasure of the mind.

5. Nor is this all. None of the processes enumerated are actually effected apart from the 'Association of Ideas,' which also so much abbreviates and facilitates operations in the first instance carried on without it ; while the final Perceptive Judgment—which always takes the form of the solution of a causal problem, and assigns the sensation actually experienced to the action upon the nervous organism of some external material object—cannot be clear and sound apart from that Intellectual Tact which has been called Judgment as distinguished from Reasoning of a more regular and elaborate kind.

For the completion of the simplest Perceptive Judgment, then, or the formation of the simplest Perceptive Notion, Percept or 'Intuition' (Kant), the twin faculties of Recognising Similarities and Discerning Differences, Memory, Imagination, and the faculty of Naming, with 'Association,' Judgment and Reasoning, must all have been brought into play. And to these must be added the metaphenomenal ideas of Self, Other-than-self, Cause or Power, besides those of Chronological and Spatial relation—usually (but rather loosely) spoken of as those of Time and Space —which are all involved and implied in any such solution of the causal problem presented by Sensation.

I submit, therefore, that the order of exposition, in dealing with the Psychology of 'the Senses' or Sense-Perception, to be complete and adequate must be somewhat as follows:—

1. 'Sensation' should certainly be dealt with first as a separate subject, as it is by Prof. Bain and Mr. Sully.

But the natural and proper limits of the subjects must be carefully observed, and none of those '*interpretations*' which Intelligence puts upon its phenomena introduced or included until the Intellectual processes and faculties necessary for such an interpretation have been noticed and examined.

All that should be done thus at the outset is—

(*a*) Succinctly to explain its physical conditions, and

(*b*) Accurately to classify its numerous varieties.

We should thus have clearly presented to us, at the threshold of our psychological system, this lowest and simplest set of mental phenomena, recognising in them a group of subjective experiences of a purely *passive* order, fitted to be the foundation on which Intellect can build, the material on which Intellect can work, but in no sense the germ out of which, apart from Intellect, any knowledge could develop or be evolved.

2. We should then proceed to examine those processes by which alone these (and, indeed, any other mental phenomena) come to be grouped into more complex forms, and come to assume significance beyond themselves. These processes are two:—the one largely mechanical or automatic, *viz.*, Association; the other, essentially intelligent and active, *viz.*, Comparison.

(*a*) The first, of course, calls for a summarisation of the laws of Association, and suggests an inquiry into its *modus operandi* and probable basis.

(*b*) An examination of the second brings out the fact that the very essence of all intellection consists in the activity of the twin faculties of the Recognition of Similarities and the Discernment of Differences.

3. At this point, perhaps, more usefully and properly than later on, attention must be drawn to those ideas which Intelligence inevitably brings into use as soon as ever Intelligence begins to examine Sensations—critically and analytically—along the lines of the processes just named: ideas, which it discovers to be simple and unique in their nature, primary and underived from others as to origin, and metaphenomenal in their reference, *viz.*, Self, Other-than-Self, Cause or Power, and Spatial and Chronological Relations (or Space and Time).

4. This brings us naturally to the problem of the treatment of Sensations by the Intellect in these various Processes, and with the aid of these Primary or Elemental Ideas. We find that Intellect cannot choose but deal with every Sensation or group of Sensations presented to it, as a *causal problem*. By the very nature of our Intelligence, we cannot help seeing that each Sensation or group of Sensations possesses an objective signifi-

cance which carries us out of the phenomenal region to which, as a merely passive experience, it belongs. In other words, we cannot but view it as a phenomenal *effect* due to the interaction of *metaphenomenal realities*, as the effect upon the Conscious Intelligent Self of something other than self occupying Space, and therefore material.

5. But as soon as we look into the question from this point of view with proper care and with due candour, we find that the solution of the causal problem thus presented to Intelligence in every case varies in its nature with the differences observable in its circumstances. We find that it may come out as a Memory or an Imagination quite as legitimately as a Perception, although in all three we apply the same principles in the exercise by the Intellect of its twin faculty of the Recognition of Similarities and Discernment of Differences.

We shall have—

(*a*) a *Perception*, if the cause of the Sensation or group of Sensations is found to be a *material object* actually *present;*

(*b*) a *Memory*, if its cause be found to be some *past* event or experience; and

(*c*) an *Imagination*, if it be found to be the product only of some neurosis initiated within the limits of the nervous system of him who experiences it, or merely the result of some effort to forecast the *future*.

Properly viewed, then, 'Perception' is only *one* of three equally possible and equally legitimate solutions of the causal problem presented to the Intellect by any Sensation or group of Sensations of which the observer becomes conscious in the course of his experience. That being so, however, it is inaccurate and misleading, in any scheme or synopsis of Psychology, to place 'Association of Ideas,' 'Memory' and 'Imagination' as topics co-ordinate with 'Perception' to be dealt with after Perception, as merely using up the materials acquired in or afforded by Perception. 'Sensation' is the one topic properly preliminary to all three; and for each and all of them the activity of the Intellect is absolutely necessary in all its varied processes of Comparison, Judgment and Reasoning. Bearing this in mind, and that 'Association' is at work from the very first, as well as that, throughout, the Intellect makes the freest use of the metaphenomenal ideas of Self, Other-than-self, Cause or Power, and Space and Time, a clear recognition is secured of the fact, which otherwise so easily fails of recognition, *viz.*, that only by the exercise of Intellect can we get to 'know' at all; and we avoid the hopeless confusions which must inevitably arise if knowledge of any sort or kind be attributed to Sensibility or Feeling.

V.—CRITICAL NOTICES.

Moral Order and Progress: An Analysis of Ethical Conceptions. By S. Alexander, Fellow of Lincoln College, Oxford. London: Trübner & Co., 1889. Pp. xxvi., 413.

This is a thoughful and carefully-reasoned book. It is also interesting from the circumstances of its production. Mr. Alexander is a pupil of Green, expressing very great obligations to him, but intimating "dissent from his fundamental principles". He has cast in his lot largely with what is currently known as Evolutionary Ethics, of which he reckons Mr. Leslie Stephen the most advanced and consistent expositor; but he has "come to the ideas borrowed from biology and the theory of evolution, which are prevalent in modern ethics, with a training derived from Aristotle and Hegel," and he claims to have found "not antagonism, but on the whole fulfilment". The advantages of such a training for such a task are obvious; and even if Mr. Alexander attributes more value than belongs to them to the biological ideas which are the ethical fashion of the day, they have undoubtedly had a stimulating influence upon his own thought.

The Introduction indicates the spirit and scope of his treatment. Attention is drawn to the convergence—"an agreement in spirit shown both in general method and in certain general results"—of the main opposing ethical theories, as represented in England at the present time by the evolutionary and the Neo-Kantian ethics. The author instances Green's doctrine that morality is a common good realised in individual wills, and Mr. Stephen's theory that conduct is moral according as it contributes to social vitality. Evidently both these theories lay stress on the organic connexion existing between the individual and his society. Though this fact has been perhaps most forcibly brought home to the average English thinker through the medium of biological ideas, Mr. Alexander rightly points out that the conception is an essential part of Hegel's doctrine. Through Hegelian and Comtian channels it was familiar to many thinkers, and was making way independently of the great impetus it undoubtedly received from the biological movement of the last thirty years. He also points out that the philosophical movement in this respect simply reflects the course of history, the revolutionary movement towards freedom from restraint and the economical principle of *laissez faire* having been largely supplemented in more recent times by the feeling of "moral solidarity" —a feeling which colours much of the legislation of the present day. In spite of sentimental mistakes and tendencies towards an ill-considered socialism, it cannot be denied that this feeling

is a necessary supplement to and corrective of the bald individualism which preceded it. This conception of "an organic coherence of the individual with society" necessarily leads, according to Mr. Alexander, to a view of morality as a social fact, and it is here that he recognises an affinity between the present current of thought and Greek ethics in its prime in Plato and Aristotle.

Recognising at the outset the normative character of ethics, as dealing not with facts as such, but with the application of a standard to facts, Mr. Alexander proposes to investigate "what it is that the moral judgment as such expresses," and to do so by means of an examination of the working conceptions of ethics. He thinks that this may be done without trenching upon metaphysics or the discussion of first principles, his aim being to restrict himself to ethical science proper. In like manner, while he assumes, or rather proposes to trace, the operation of evolution within ethics, he puts aside the question whether "man and his morality are derived from some lower form of life". The title of the volume indicates the two divisions into which it falls. The first ("Moral Order") deals with "the statics of morality," and asks "to what facts the central conceptions of good or right and of obligation correspond"; the second ("Moral Progress") is dynamical and "investigates the operation of the forces by which the distinction of good and bad grows and varies". But to these is prefixed, as preliminary, a semi-psychological analysis of conduct and character with a view to discover the phases of each to which we apply moral predicates. If this First Book, therefore, discusses the question "What is good?" the Second asks "Why is it good, or what does its goodness mean?" and the Third asks "How does goodness come into being, how is it maintained, how does it advance?". At the end of his Introduction, the author shortly indicates the gist of the whole volume, namely, that the idea of good or right implies nothing more than an adjustment of parts in an orderly whole, which in the individual represents an equilibrium of different powers, in the society an equilibrium of different persons.

The First Book, which corresponds to a partial 'psychology of the active powers,' contains a good deal of careful discussion and definition. One or two points may be noted. The object of desire, according to Mr. Alexander, is never a mere external thing, but always "a state of my mind which, in desiring, exists in idea, in the satisfaction, as a reality". This is perhaps open to misconception, but I do not understand Mr. Alexander to take the hedonistic side against Butler and Professor Sidgwick in the vexed question of the object of desire, but simply to protest against the externality of the desired object, which Butler and others have dwelt upon, probably by way of emphasising their own protest against the hedonistic view. Certainly the agent desiring does not separate the object from his own satisfaction in

it; if he did, the mental fact would be not desire but perception or imagination. But if the object cannot be separated from the satisfaction of the agent, neither is the latter (cases of reflective self-indulgence always excepted) separated as pleasure from the object. This, I take it, is Mr. Alexander's contention. Proceeding in his analysis, he lays down the broad position that what is morally good or bad is always the will. We do not blame a man for his defective mental endowments, nor for his thoughts and feelings, except so far as he has nursed them into strength. Conduct is usually considered as the outcome of the will in external action, but "the real moral fact is conduct itself regarded as a whole of many elements and actions; consequences and internal feelings have value for morality only in so far as they are elements of this fact". Here again, in similar terms to those used of desire, the author emphasises the internality of conduct, so far as it is moral. "In willing an external action the object is the state of mind which we call by the name of the action." That this is so is proved by the moral commonplace that for external action involuntarily caused the doer is not blamed, while he is blamed for a nefarious intention, even though its effect in the external world be frustrated. In ordinary circumstances, however, consequences are "the outer aspect of conduct, as feelings are its inner aspect". Character, again, is simply "that of which individual pieces of conduct are the manifestation; it is the force of which conduct is the expression, or the substance of which conduct is the attribute. Conduct and character are thus the same thing facing different ways. Short of being equivalent to conduct, character sinks to the rank of what is merely disposition or temperament. But disposition comes up for moral judgment only according to the volitions in which it issues. Character is not the same thing as disposition, but it is built upon it."[1]

The First Book ends with a short but rather interesting discussion of ethical method and the relation of ethics to metaphysics. As already indicated, Mr. Alexander insists on the necessity of keeping ethics distinct from metaphysics, though he admits that ethical inquiries "stand very near to metaphysics, and may be the most natural way of raising ultimate questions. Ethics has not to wait for metaphysics but to prepare for it." He joins issue on this point with Green; but though he puts his finger very acutely, in my opinion, on the fallacy which lurks in Green's transcendental and timeless Self (note on p. 76), it is more difficult to show the possibility of treating ethics without metaphysical presuppositions of some kind. The Self demanding to be satisfied was introduced or postulated by Green to explain the

[1] In spite of this clear and accurate distinction, however, Mr. Alexander seems himself to confuse character and disposition in his short discussion of Free-will, pp. 336-42.

normative or preceptive character of ethics. Is Mr. Alexander's own conception of an organism of individual and social conduct demanding at every point a certain line of action for the preservation of its equilibrium—is this not also a conception of the same order as Green's Self, though it may not be open to the same objections? 'Metaphysical' is with some a term of reproach, but a conception is not less metaphysical because it is borrowed from biological science. This may be as good a place as any for remarking that Mr. Alexander seems to me to have been a little too much taken captive by the fashion of the day, which sees all things in biology. Why should we, as he says, "expect to find the truths of ethics analogous all along the line with those of the animal world"? Mr. Alexander answers, because both sciences deal with "types"; but the reason seems rather an *ex post facto* explanation of the influence which a dominant science has exercised upon his thinking as upon that of so many others. The intellectual impetus derived from contact with biology has undoubtedly been most healthful in many cases, and Mr. Alexander's, as I have already said, is no exception; but the thorough-going parallelism which he tries to set up between the evolution of species and the evolution of moral conduct seems to me at times, I must confess, a little forced, and the somewhat laborious comparison often adds nothing in the way of clearness to what is clear enough without it. The best proof that we need not go to biology for a master-key is furnished by Mr. Alexander himself when he remarks in his Introduction that something very like his own position is to be found in the ethics of Plato and Aristotle. The Platonic theory of the virtues, notably of justice or virtue *par excellence*, is, to say the least, a very close anticipation of the modern notions of equilibrium, function, social health, &c.

In the opening of his Second Book, Mr. Alexander indicates very clearly the line of thought he is to follow. He traces, in an interesting way, the movement of ethical theory in England from crassly individualistic selfishness, through Mill's Utilitarianism and the dualistic positions of Professor Sidgwick and Mr. Spencer to the full recognition of "the social character of morality" in Mr. Leslie Stephen's *Science of Ethics*. Similarly, in Germany, there was a movement from the bare universalism of Kant's categorical imperative to the Hegelian recognition of morality made objective in the customs of society and the institutions of the State. Taking this as the outcome of recent ethical speculation, Mr. Alexander makes the position enthusiastically his own. "To realise the social character of morality," he says, "is to seek the explanation of its authority, not in some categorical imperative, such as Kant's, but in the very nature of society itself." The question of the meaning of the conceptions, good and bad, or right and wrong, seems to him "identical" with the problem, "how the individual agent is related to the society in which he lives". The individual is first dealt with, however, in

provisional isolation from society. For the individual, the good life is defined as "a system of conscious acts, where each function has its limits prescribed to it by the demands of all other functions, so that no faculty shall perform its functions to the detriment of another. . . . In this proportion or adjustment consists the reasonableness or rationality of good conduct, and in this sense reason may be called the regulative principle of morality."[1] In accordance with what was said before, the same thing may be expressed with equal truth in terms of the internal. "The good man may be described either as an equilibrated order of conduct, or an equilibrium of moral sentiments, or of the parts of his nature." It is, however, to be understood that the equilibrium is not a state of rest, but a mobile equilibrium in which all the parts are shifting, and, moreover, "the equilibrium is a balance of the parts with one another, not simply an equilibrium of a man with his conditions". When we turn to the social equilbrium, we are told that the predicate "good" means that the act is one by which the agent seeks to perform the function required of him by his position in society. "Each person has a definite place which requires of him a determinate work; and, secondly, what that work is is settled by reference to the conflicting claims of all, or to the demands of the whole society. . . . The acts which are approved are never, as a matter of fact, identical for two individuals. Every individual acts under his own special conditions of personal characteristics and outward surroundings; and, though his duties may be practically indistinguishable from those of another individual, they are no more the same than any two acts he himself performs are the same. Morality, like history, never repeats itself." Hence "the moral precept itself is always individual, 'this is good or bad'". Conduct is good, not because it leads to some further result, such as pleasure, or because it is determined by some inexplicable idea of good, but in virtue of the equilibrium it establishes between the various parts of conduct itself. "Good conduct, therefore, settled as such by an internal test, should contain within itself the whole justification of morality without requiring us to go outside. . . . It is *the* ultimate test and *the* ultimate object of morality."

The above contains the central idea of the volume, but any remarks to be made upon it will come in more fitly after Mr. Alexander's own criticism of competing theories. The next

[1] Mr. Alexander devotes several paragraphs to rebutting the notion that reason is, in any other sense, the author of the moral order, but surely he interprets the doctrine in a sense in which no one holds it. It has been very generally held that morality is bound up with the existence of a rational or self-conscious being able as such to envisage a law for himself. Does Mr. Alexander mean to deny this connexion between reason and morality? He only speaks of reason as a calculating faculty. It was hardly worth proving that the subjective process of calculating does not alter the objective facts calculated.

section is devoted to proving, what has hitherto rather been assumed, that the self-regarding virtues, as they are called, are really social, and consequently that all virtue is social in its character. Every act, says Mr. Alexander, if a bad one, lowers, if a good one, maintains or raises, the efficiency of the agent. Efficiency, as appears from the next sentence, is "efficiency for society". "It is because of the actual alteration in a man's character which such action involves that it is included amongst those energies *which he has to adjust to other persons' needs*, and is *therefore* called moral or immoral." No one is likely to deny that whatever lowers a man's moral tone injures to that extent his social efficiency, but the words which I have italicised seem to involve more than this: they seem to imply that the individual exists simply as a means for promoting the welfare of others. Besides the logical circle which this involves (seeing that the others also exist only as means), I was at first inclined to think that there was also implied an external or hedonistic conception of the moral end. But Mr. Alexander speaks in various places and with no uncertain sound of "character and conduct as the supreme good". Still, in praising thus the social character of morality he seems to me to tend to overlook its individual and personal character. No reasonable thinker, I imagine, supposes in speaking of an individual's duties to himself that a moral individual ever existed, or could exist, in solid singleness, to use a Lucretian phrase, apart altogether from society and its influences. But without denying the reality of what is called the social organism, that cannot after all be said to be real in the same sense in which the individuals who compose it are real. They are, as it were, its points of actuality—the centres in which it is alive to joy and suffering and thought. The moral individual is therefore primarily an end in himself; and though we may make his social efficiency an index to his moral character, it is perhaps a deeper view to regard even his duties to others as ultimately elements in his duty to himself —in Kantian phrase, to the humanity inhabiting his person. No doubt, the two views really emphasise opposite sides of the same truth, but the evolutionary and social treatment of ethics seems to me to be in some danger of obscuring the intensely inward and personal character of morality. Some of these dangers are, I think, reflected in Mr. Alexander's account of obligation or duty, which immediately follows. Obligation is defined as "that relation in which the single part of the order stands to the whole order, when it is confronted by the whole: whether we are considering the relations of a man's act to the whole of his character, or of a single individual to the institutions of society. . . . The whole has *authority* against the parts, and every particular duty is said to have authority just as it is backed by the whole mass of duties." Obligation, he repeats, is a relation which obtains between the parts of the moral ideal itself; and he re-

pudiates the view of duty as either (1) antagonistic to sense or (2) an action which is to be performed by an agent who is not yet what he ought to be. If sense be taken as equivalent to inclination (and it is so taken by Mr. Alexander), the two positions come to much the same thing. Mr. Alexander's argument against them is a round denial that the functions required by morality are antagonistic to inclination; they accord, he says, with "the inclination of the good man". "To the good man the law is an easy burden. . . . Morality is a spontaneous outcome of the moral nature." This is perfectly true, but we must not forget that "the good man" in this sense is non-existent; he is, as Kant would say, an archetype. Mr. Alexander's use of the term is ambiguous, for he frequently uses it as equivalent to what he calls (p. 195) "the average good man," and he talks of comparing "good men" with one another. He is led, therefore, to make assertions of the actual morality of the average good man which are only true of the ideal morality of the ideal good man. Thus we are told that the average good man does not do heroic acts, though he is none the less virtuous for that, not being called upon to do them. "In like manner his will is of moderate strength, *though strong enough to keep him whole;* and if he were placed in the position of temptation, he might therefore yield." The words which I have italicised and many similar passages seem to imply that though in other circumstances the average good man might be found wanting, yet, occupying the niche in society which he does, he fully and spontaneously meets the demands of duty upon him. Now, if true at all, this can be true only if we restrict morality to the comparatively external routine of 'my station and its duties'. But to do so is to substitute for the infinite content of personal duty a minimum of respectable observance. The aim of morality is no doubt the formation of moral habits or habitudes; and in proportion as these are formed the conflict between duty and inclination becomes less acute, and we come to do certain kinds of good actions spontaneously. But such imperfect approximation at a few points can never justify us in dissevering morality from the "negative" aspect of duty or obligation. Mr. Alexander himself admits this towards the end of his volume (p. 402) in criticising Mr. Spencer's position in the *Data of Ethics;* but still he cannot conceal his rooted dislike to the principle, for he immediately goes on to say that duty is not the highest moral principle because it conceals the spontaneity of morality, and to look forward (in a way which I cannot well distinguish from Mr. Spencer's) to "such modification as will replace it by a higher conception". And he again repudiates "the idea of antagonism to inclination" as not belonging of right to the idea of morality (p. 404). I would urge in reply that this "negativity" is of the essence of duty, and that obligation or submission to law is nevertheless the highest conception of ethics, not to say that on which the whole science depends. The

conception of spontaneity carries us out of the region of ethics altogether. Kant's position seems to me in this respect unimpeachable: "The moral law is for the will of a perfect being a law of holiness, but for the will of every finite intelligence a law of duty, of ethical constraint; nor is it congruous with our station in the ranks of intelligences, as men, when we presume to propose ourselves as volunteers, and set ourselves loftily above the idea of Duty; and when, as if we were independent of the law, we propose to do that out of our own good pleasure which we need no commandment to enjoin. We stand under a discipline of reason, and in all our maxims must never forget our subjection to its authority." As regards the conflict of inclination with duty, I would further quote against Mr. Alexander his own excellent account of the element of self-sacrifice in all good conduct (pp. 176-81).

Chap. v. contains a criticism of the main contemporary theories of the ethical End. Mr. Alexander objects to Green's principle of self-realisation on the ground that every exercise of power realises the self, and that what self is to be realised is not given in the conception, but has to be decided "by an appeal to that criterion of right and wrong which makes morality the supreme principle of life". The position that pleasure is the end is criticised at greater length, and here he points out very truly that the reason why a polemic like Green's is so unconvincing to the utilitarian is that Green's argument deals not with the pleasure and pain which are real facts in our mental life, but with the abstractions of a false psychology; whereas "utilitarian writers, though they speak of pleasures in the language of psychology, treat them as the familiar facts we know. Hence if we are to understand the reasoning, we must drop the psychological theory and think of the concrete facts the writers decide." If we do this, we find that the real reason why the greatest sum of pleasures is not adequate as the ultimate test of conduct, is that it neglects the cardinal fact that pleasures differ in kind, and cannot therefore be compared merely in respect of intensity. Pleasure, even in its strict sense of pleasantness, Mr. Alexander maintains, is subject to differences not only of degree but of kind. Pleasure and pain express the tones of sensations, but this simple antithesis is a very inadequate account of these varying tones. The pleasure of thinking is of a different quality from the pleasure of eating; or, without suggesting any distinction as higher and lower, there are qualitative distinctions of pleasure in drinking different wines. This element of quality in pleasure Mr. Alexander proposes to call the "preferability" of a pleasure, without, however, introducing the ethical idea that any pleasure is higher than others and *ought* to be preferred. This characteristic of pleasures, he argues, effectually disqualifies "the greatest sum of pleasures" as the test of conduct; for in making the calculation the qualities of the pleasures must be taken into

account, and these depend on the kinds of activities they accompany. In order to arrive at the knowledge of the greatest sum, we should therefore require to know the characters of the persons in question. The maximum of pleasure is thus a formula by which we can always express the end—it is a constant accompaniment of the end—but in itself it throws no light upon the constituents of the end. Although "an integral part of the standard of morality, it is not an independent standard". Passing finally to the principle of social vitality, Mr. Alexander argues that, so far as vitality means simply continuance of existence, it is an abstraction, since all existence is determined—the existence of some type. Moreover, although we know by its survival that the moral society is the fittest (just as in the parallel case of an existing species), its survival is not the cause of its fitness, but is itself caused by the qualities which make the society moral. If, on the other hand, vitality means health, then health expresses metaphorically "that very fact of equilibrium which constitutes good conduct good". In this way the conclusion is reached that the idea of equilibrium is fundamental and embraces all the other criteria as partial views.

It will be admitted, I think, by all who read his book that Mr. Alexander puts his criterion to excellent use, but those whom he here criticises might perhaps, if they had the opportunity, retort some of his arguments upon himself. A follower of Green might reply that the idea of equilibrium does not in itself, any more than the idea of self-realisation, instruct us as to the kind of actions which will realise the equilibrium. We can know this only by the inner test of a feeling of harmony which is exactly equivalent to that feeling of lasting satisfaction by which we attain in the process of experience to a knowledge of what is the true or higher self. A supporter of social vitality or social health might also ask whether the idea of equilibrium is after all any less metaphorical than his own principle. Two other considerations suggest themselves. While serviceable as a criterion, the idea of equilibrium is not one which could be appropriately proposed as an End of action; we are forced in that case to fall back upon the nature of the organism whose powers are to be equilibrated—in other words, upon the idea of the human self and a community of such selves. The principle of self-realisation, vague as it may be and requiring at every step to be instructed by experience, has at least the merit of keeping the End in view and of implying the immanence of this idea in the development from the beginning. Mr. Alexander, on the other hand, occupied with the process and its mechanism, seems at times to hand over the development altogether to the operation of chance-variations persisting by might rather than right. Now might is certainly right, if we assume the immanent rationality of the development to start with, but to say *sans phrase* that "the good is created by its predominance" (p. 315) is already to venture on slippery ground.

So, again, Mr. Alexander says: "If there were only one society, whatever forward movement it made must be considered progress, for there would be no other standard of judgment". Applied not to one society but to humanity, this gives us the position: "'*Die Weltgeschichte ist das Weltgericht*'. History is itself the bar at which institutions are to be judged. . . . To deny this is to find some other standard of advance than in the actual movement which has taken place, to put an *a priori* conception of development in the place of the facts." Mr. Alexander's meaning here is perfectly sound; it is, in its essence, familiar to us from Hegel and others. But such statements cannot be made without qualification. They were qualified in Hegel by his conception, everywhere urged, of the rationality of the whole world-process. We need not bring any specific conception of development with us to the facts, but this "*a priori* conception" at least we must bring, that there *is* a development towards a presupposed end, and not a mere outgrowth of sporadic varieties in incalculable directions. The second consideration that occurs to me is as to the sufficiency of equilibrium as a properly ethical conception. Might equilibrium not be attained by a purely selfish but perfectly clear-sighted man? All his actions would form part of a system or organism, but there would be no morality in the case, for the end would be base. Mr. Alexander himself allows (p. 137) that the "perfectly bad" man would really be in equilibrium, only adding that "the perfectly bad man is an impossibility". But as the perfectly good man is also a theoretical case, this hardly repairs the breach which such an admission makes in the theory. If an individual may, a society may also be conceived working smoothly on principles of enlightened selfishness, and though in both an equilibrium would be realised, yet the conduct would be entirely void of ethical content. In short, if equilibrium may be attained indifferently by perfectly good and perfectly bad conduct, it does not appear as if the notion of equilibrium afforded by itself an adequate explanation of morality. It is the surrender of himself to a law which, in spite of divergent inclinations, he recognises as the true law of his humanity that constitutes the basal fact or *conditio sine quâ non* of morality. The realisation of this condition is followed by a feeling of harmony or peace which may be described as an equilibrium for the time being of the whole nature; but, severed from this condition, the latter does not supply an independent criterion, and, as I tried to show before, it is certainly not an End which we can propose to ourselves.

I have omitted much that is interesting and well-put in the Second Book; and in the Third Book, dealing with the facts of moral growth and progress, I can simply indicate in a sentence or two the course of the argument. At the outset the position is laid down that continuous variation or "a perpetual impermanence" is an essential characteristic of morality. In this con-

nexion the author criticises Mr. Spencer's Absolute Ethics, pointing out that in speaking of morality as an adaptation of man to his social environment we must not take the environment as something fixed and permanent, to which therefore an ultimately perfect adaptation is conceivable. Adaptation is a joint action of the individual and his environment. What the environment is depends upon the qualities of the individual. "The environment of the amœba consists of the things which can come in its way to be used as food or rejected; everything else would be to it, in Kantian phrase, as good as nothing. With the enlargement of the animal's powers the environment changes, sometimes it may be in the actual range of its extent, sometimes in the wealth of its properties." Hence, while all adaptation, so far as it exists, is perfect adaptation, there can be no finality, no ultimate "best". The moral ideal essentially involves advance, because the act of adjustment implied in good conduct alters the sentiments of the agent and creates new needs which demand a new satisfaction. The mere doing of good actions does not simply intensify our tendency to do them, but may convince us of the necessity of doing new ones which were hidden from us before. The adjustment leads to a maladjustment because the qualities of the persons who are to enter into the moral relation are altered. The good becomes bad in virtue of performance. The second chapter of this Book discusses the origin of moral distinctions: not, however, how morality as such comes into being, but how any particular stage of morality—any particular moral ideal—arises. Mr. Alexander answers by reference to the development of species through the struggle of varieties. The good ideal is "created by a struggle of ideals in which it has predominated. Evil is simply that which has been rejected and defeated in the struggle with the good." It is in this connexion that some of those questionable statements occur to which I have already referred. The chapter which follows contains an able discussion of Punishment, Responsibility, Free Will and Education, but not in any special way dependent on the author's general conception. When he asks at the close of the volume whether we are in a position to formulate any law of moral progress, he suggests that it may be found in a law of Comprehension or growing comprehensiveness such as Green so well traced in his comparison of Greek and Christian virtues. In concluding a notice which, though long, is not too long for the importance of the work, I would only add that though I have been obliged to dissent from Mr. Alexander on important points, his book is one which every student of modern ethics will find his account in reading.

ANDREW SETH.

The Principles of Empirical or Inductive Logic. By JOHN VENN, Sc.D., F.R.S., Fellow and Lecturer in the Moral Sciences, Gonville and Caius College, Cambridge. London and New York: Macmillan & Co., 1889. Pp. xx., 594.

Mr. Venn has here published a selection from the lectures which for some years past he has been accustomed to deliver at Cambridge. The work is mainly a commentary on Mill, partly critical, partly reconstructive and supplementary, and it treats principally of the Inductive department of Logic. The reader is not to expect a complete systematic treatise; he is supposed to be already equipped with a knowledge of the ordinary text-books. In particular he will find no account of the processes of Immediate Inference and Syllogism, not even such scanty information as Mill gives about these subjects; though it is true that here and there some peculiar freshness of idea has tempted the author, as in the chapters on Terms and Propositions (especially Hypotheticals), to introduce discussions that a purely Inductive treatise might have dispensed with. The whole is written in a style of as great lucidity and animation as the subject admits of; and an excellent assortment of examples serves to sustain the interest and to diffuse that miscellaneous information which is really no unimportant use of these modern works on Logic.

The extraordinary variety of general conception and exposition that Logic has proved to be susceptible of is now pretty well known. The non-logical may scoff at this as a sign of chaotic uncertainty, but logicians will rejoice at it (with due sobriety) as a proof of vitality and healthy growth. Jevons's work included so much more than we are accustomed to call Logic, that he perhaps did well not to call it by that name; though for my own part I am always too thankful for a good book to be punctilious about its title. However, amongst the familiar distinctions that have been drawn with regard to the treatment of Logic that between the pure or formal department on the one hand, and on the other the department in which formal principles are applied either to persuasion, as in Rhetoric, or to scientific investigation, seems to be really valuable. Until recently, indeed, the department of Applied or Modified Logic, as it was called, had been so little developed that it was perhaps best treated (as by Hamilton) as little else than an appendix to the science, and it needed no more than an epithet to distinguish it from the main body of the subject. Now, however, the application of Logical principles to scientific procedure has become a study so much more interesting and extensive than the pure science (even including formal Induction) that many good uses would be served by giving it a separate name, and for this purpose the term 'Methodology' lies very conveniently at hand.

'Methodology' would for several reasons have been a better title for Mr. Venn's work than that which he has chosen to give it. Nor is the title it bears at all favourably recommended by the

reason he offers for it. "By the introduction of the term Empirical into the title," he says, "I wish to emphasise my belief that no ultimate objective certainty, such as Mill, for instance, seemed to attribute to the results of Induction, is attainable by any exercise of the human reason" (Preface). Whether Mill attributed any such certainty to the results of Induction might be disputed. But at any rate "Empirical," as used in philosophy, does not directly connote *uncertainty;* it is only connected with uncertainty by the argumentation (perhaps erroneous) of those who oppose Empiricism. But Mr. Venn is not one of them: he nowhere shows the slightest leaning to them; and, besides, he says that certainty is not attainable "by any exercise of human reason". Why, then, is an epithet intended to imply uncertainty peculiarly appropriate to Inductive Logic? Is there any advantage, speculative or practical, in stigmatising the results of induction as specially uncertain? That they are uncertain we know, for we are always trying to correct them, but only by better inductions. Another reason, and a much more important one, for calling this work 'Methodology' may be found in the scope of its discussions. If once we leave pure Logic and enter upon the general scientific methods of investigating Nature, there is no good ground for confining our treatise to strictly logical or merely qualitative methods. And therefore it is quite consistent with Mr. Venn's object to introduce chapters on physical and psychophysical Standards and Units and on the data of Geometry, including such particulars as the interpretation of the hyperbola, the Archimedean spiral, and the principles of the Differential Calculus. Very good, though this is not Logic. But what can be more ungrateful than to find fault with an author for being better than the promise of his title page, and instructive beyond our expectations?

The first striking characteristic of the plan of Mr. Venn's book is the attempt with which it opens to assign fully the postulates of Logic. This has indeed been done to some extent by Prof. Bain in his well-known work; but Mr. Venn makes a more systematic effort to state the first principles of the science and the general condition of things that it takes for granted. He begins by showing how Logic presupposes the objective uniformity of the phenomenal world, its distinctness from the observer, its sameness for all observers, and its freedom from disturbance by the fact of logical treatment. Much of the very interesting discussion under these heads is indeed not peculiar to the needs of Logic, but belongs to the prolegomena of all science; and the same may be said of a good many disquisitions elsewhere in the course of the work; but to introduce them into logical treatises seems to be inevitable in the present condition of English philosophy. So little has been done by our representative thinkers to differentiate and construct Metaphysics and First Philosophy in harmony with their views

of the nature of knowledge, that we may be thankful for any essay that assists us to this end; and if such discussion cannot be had separately, it has more cohesion with Logic and Methodology than with any other department of thought.

A purely logical question is reached when Mr. Venn begins to discuss the character of Logic as objective or subjective or both. He decides that it is both, and according to his conception of the science he is no doubt entirely right. Methodology cannot be entirely objective (whether it may be wholly subjective we need not inquire). As Mr. Venn observes, "any attempt to confine ourselves to a bare statement or analysis of the facts of nature must be insufficient when what we are concerned with is *inference* about those facts; for inference turns almost entirely upon the distinction between what is known and what is unknown, and this distinction cannot be sought in the facts but in our appreciation of them" (p. 23). Pure Logic, however, it seems to me, may be regarded as having nothing directly to do with inference, but merely as stating the general forms of the relation and correlation of phenomena, with which all true inferences, the connexion of evidence and conclusion, must agree, and which Methodology shows us how to apply in order to test inferences. If so, this is a particular reason for carefully distinguishing Methodology from pure Logic and for treating the latter first.[1]

Attention should be given to the suggestion at pp. 28, 37, of different standards of truth for different orders of assertion. The chapter concludes with a postulate of Logic in relation to Language, that "we must assume that our words have the same determinate meaning in the minds of all who use them" (p. 37). Upon which Mr. Venn observes that "it is absolutely necessary for scientific accuracy, and yet in practice so obviously untrue"; and this certainly raises a difficulty. It seems to me that we have here a postulate not belonging to Methodology, but to that ideal of scientific knowledge at which Methodology aims, and which the author treats of in ch. xxiv. Definition is surely a part of Methodology; but, coming to treat of Definition in ch. xi., Mr. Venn finds himself met by the doubt whether it can be of any use, since by the postulate a complete consent exists as to the meaning of all words! To avoid this difficulty he draws the distinction between Formal and Applied Logic: it is only, he says, in Formal Logic that definitions are obviously uncalled for and

[1] In a note to p. 22 Mr. Venn suggests that Mr. Spencer's well-known view does not much differ from his own, because that philosopher recognises the Science of Reasoning as subjective. But the term "Science of Reasoning," as used in *Principles of Psychology* (vol. ii., pp. 87-100), refers, I venture to say, neither to Methodology nor to Logic, but to a department of Psychology; and Mr. Spencer's difference from Mr. Venn upon this point is as clear as thought can make it.

useless. But if so, why lay the above postulate at the foundation of a work that is almost confined to Applied Logic? And what excuse can there be for urging this postulate (admitted to be obviously untrue) as a reason why a contradiction in terms is "not likely to occur except through lapse of attention or misapprehension of some kind"? (p. 297). Certainly without "misapprehension of some kind" a contradiction in terms can hardly occur; but how are we helped to avoid such misapprehension by assuming what is obviously untrue? Several other passages might be produced in which this postulate plays a very strange part.

Passing to narrower and more special assumptions, Mr. Venn takes up in ch. ii. the Law of Causation; and, tracing its history, he observes, after a brief notice of the Aristotelian doctrine, that in the modern conception of the law three stages of development may be discovered. There is first the popular conception, which does not distinguish between coexistence and succession, but is content with discovering any apparent connexion of things that enables one to be inferred from another. When dealing with sequences this primitive sort of thought singles out one antecedent and one consequent as signs of each other (pp. 52, 53). At the second stage the logician comes and endeavours to improve upon this popular view so as to make it suit his purpose. It might perhaps be questioned whether, until the influence of philosophical reflection has been felt, the popular mind is capable of any such conception as a general law of causation (or of connexion in general); but this may be waived. The logician's device for improving the conception is, says Mr. Venn, to insist (1) upon rejecting uniformities of coexistence; (2) upon enumerating *all* the elements of the antecedent, or all that can be considered relevant; and (3) upon the *closeness* of the sequence of cause and effect. Thus modified, the law takes the form it has in Mill. But it is still open to objections, for, in fact, in applying the law all antecedents are not enumerated, far from it; and by failing to enumerate the consequences as fully as the conditions, the unsatisfactory doctrine of a Plurality of Causes is admitted. This, says Mr. Venn, shows the essentially practical character of the conception of causation at the second stage of its development. At the final stage, "speculative interest gets the upper hand," and leads us to be thorough in introducing all the antecedents and all the consequents in any case of causation. We thus get rid of the Plurality of Causes; but on the other hand the law becomes entirely useless, since all the antecedents never recur, and if they did recur it would be impossible for the human mind to estimate their number and extent. Even if we yield to these considerations so far as to require the enumeration only of those antecedents that lie at hand, estimating them, however, with scientific accuracy, it will be necessary to regard the effect as strictly immediate, that is, no more than an initial tendency. So

that the attempt to attain to speculative consistency leads to a result that is practically of no value.

This discussion seems to me to illustrate again very happily the desirability of distinguishing Pure Logic from Methodology. In Pure Logic practical interest is at a minimum, and therefore a strict statement of the law of causation will present it with no difficulty but that of finding actual examples to aid the exposition. Then Methodology will find its true occupation in discussing the modifications of strict logical principle that may be necessary in the investigation of various departments of nature or of human life: in what circumstances it may be better to insist upon a less or more complete enumeration of antecedents or of consequents; when to be content with a merely hypothetical selection of causes as a basis for deduction and verification; when to recognise or reject a plurality of causes. This, indeed, is a practical inquiry, but not in any sense of 'practical' that is opposed to speculative; it is, on the contrary, essential to all speculation outside the abstract sciences; and it is surely only in this sense that it can be suggested that "speculative interest" has not "the upper hand" in Mill's *Logic*.

But, of course, it is the fate of lectures on such a subject as this to become disproportionately critical: criticism is their function. And this must explain why Mr. Venn seems to have a sort of quarrel with the Law of Causation, treating it to some dyslogistic phrases as belonging to "popular science," or "first-class popular thought": meaning apparently that the law is only qualitatively determined. But granting that quantitative determination belongs to the ideal of science, to deny the name of science to everything else, or to qualify it as "popular" (as if for consumption at the Polytechnic), is an idol of the mathematician's den. Besides, if a quantitative law is demanded, why not discuss along with Mill's law the interpretation of Causation as Conservation of Energy, which has been given by Prof. Bain, and accepted in his last corrected edition by Mill himself? The omission to do so is the more remarkable since in ch. iv. Mr. Venn has pointed out the ways in which Conservation supplements and extends Causation. A pedantic logician might, indeed, have objected to any appeal to quantitative considerations; but in a work on Methodology, like the one before us, that is far from avoiding mathematical topics, its constructive value would have been greatly increased by treating of Causation in its fullest meaning. This would have led to considerable modifications of ch. xvii. on the Inductive Methods; and it would have been a task to which Mr. Venn's powers and training are wonderfully adapted. Even the criticism of Causation must then have become more valuable, as directed against the doctrine in its least vulnerable shape. But his desire to take the Law of Causation down a peg or two appears still more surprisingly in the next chapter.

Ch. iii. treats of Coexistences, and endeavours to present a "rival" law over which the law of Causation can claim no "such decided superiority" as it is too commonly assumed to have. Mr. Venn begins with a quotation from Mill (bk. iii., ch. 22, § 4), which, as he justly says, amounts to alleging "a definite failure on the part of Nature" to supply a general law of Coexistence from which we might make methodical inductions just as we do from the law of Causation. But to find the grounds of Mill's complaint we must refer back to the discussion of Causation (ch. 5, § 9), where we read: "Since everything that occurs is determined by laws of causation and collocations of the original causes, it follows that the coexistences that are observable amongst effects cannot be themselves the subject of any similar set of laws distinct from laws of causation". Hence "the coexistences of phenomena can in no case be universal, unless the coexistences of the primeval causes to which the effects are ultimately traceable can be reduced to an universal law; but we have seen that they cannot". The only independent coexistences invariable enough to be called laws are those that obtain "between different properties of the same natural agent". Now, since Mr. Venn, however much he may criticise statements of the law of Causation, does not, I believe, dispute the fact of it, he would have done well to begin his investigation of Coexistences by trying to refute the above argument. He would then probably have saved himself a good deal of pure speculation. The gist of his endeavour is to establish a parallelism between the stages in the development of the law of Causation described above, and corresponding ways, which he suggests, of regarding relations of Coexistence. The first stage is common to the two laws, since the primitive mind, as long as it can find some ground of inference, does not distinguish between connexions of succession and those of coexistence. Then, just as Hume, Herschel and Mill refined upon the popular view of Cause, so there may be suggested a second stage in the development of a law of Coexistence. The chief difficulty, according to Mr. Venn, is that "when the *time* variable is omitted, as in coexistences, it becomes mere tautology to talk of introducing all the elements" (p. 76). We may say: A (all antecedents) has been followed by x, therefore it will be again; but if we say: A (all coexistents) includes x, therefore it will again—this is mere repetition.[1] The formula of the second stage must therefore be framed thus: "If all the coexistent elements, *except one—viz.*, the one which occupies the place corresponding to that of effect—be repeated, then this one also will necessarily be secured" (p. 77).

The degree of trust due to this formula in Mr. Venn's own judgment is not easy to determine; for at p. 80 he says it is "of

[1] In the seventh line from the foot of p. 76 there seems to be a misprint: the first x should, I presume, be A.

much about the same cogency and value" as the corresponding stage of the Law of Causation; whereas at p. 77 we read that "when over-refined these Laws of Coexistence seem of distinctly less value than those of Sequence when similarly reformed". It is a serious objection, he says, that to attempt to omit one fact or attribute from a total coexistence raises the difficulty of determining its individuality and circumscription amidst the tangle of its infibulations with the rest. Still, in a popular way, this may be evaded, as in the following instances: in a pear the qualities will always be much the same; a man standing before a wicket with a bat in his hand implies a bowler, though we may not be able to see him; and a breakfast-cup of coffee most likely contains some milk and sugar (p. 78). But clearly none of these instances exhibits a coexistence independent of causation: the pear is a 'natural kind' (of which more presently); the batsman implies a bowler only if we assume that he acts upon ordinary motives and is not a lunatic; the adulteration of coffee with milk and sugar is an effect of the prevalent taste, though some take it black with cognac, and others omit the sugar. Whatever the certainty of these laws, therefore, not one of them is an example of that uniformity of pure coexistence which Mill complained of Nature for not having provided.

In the third and final stage to which the Law of Coexistence may be carried by insisting upon the most rigid scientific interpretation of it, the above-mentioned difficulty of individualising attributes becomes so great, that it is necessary to abandon the attempt to treat of coexistent attributes, and to fall back upon the molecular and mechanical constitution of any body or system (p. 79). Then, however, we arrive at coexistences that determine one another with as much precision as cause and effect. Thus, action and reaction being equal and opposite, if in a pile of bricks we know the pressures experienced by all *except one*, we also know the pressure upon that one; and similarly with regard to gravitation. But as to this, it may be suggested, that whilst the statement of the law of action and reaction is in terms of Coexistence, the interest of it in Methodology is connected with Causation, and refers to such points as these: that to state only the action of any cause is to give only half the effect; and that to alter the number or positions of any bodies in a mechanical system is to change their mutual pressures in such and such ways. And as to the molecular constitution of bodies, should biologists or chemists succeed in discovering it with the utmost precision, they will only be the more bent upon discovering the causes to which such constitution may be traced. In other words, the scientific mind will never be satisfied with coexistences (not merely geometrical) that seem to be independent of causation; though the limitations of human reason may compel us to put up with such things. On the whole, it seems that no formula of Coexistence has the slightest chance of rivalling the law of Causation, especi-

ally when we remember that, by Mr. Venn's own showing in ch. iv., the law of Causation is immensely reinforced by the law of the Conservation of Energy. By what alliance will he redress the balance in favour of Coexistence?

Passing on to enumerate the chief classes of laws of Coexistence, Mr. Venn mentions (1) Natural Substances; (2) Natural Kinds; (3) what may be called Social Groupings, as in the arrangement of a law court or of the players at cricket; (4) Geometrical Properties. The causation of substances, at least of elements, is still, no doubt, obscure enough. As to natural kinds, we now have a general theory of their causation. Mr. Venn, indeed, says that Mill regarded them as uncaused; and in his early editions (of which I have no copy at hand) he may have done so; he was, perhaps, a little slow in assimilating the doctrine of evolution: but in the last corrected editions he says of organised beings that "there is reason to believe that none of their properties are ultimate, but all of them derivative, and produced by causation" (bk. iii., ch. 22, § 6).[1] As to social groups, they are clearly causal. In geometrical properties, indeed, we have abundant derivative laws of coexistence obtained by Deduction; and being properties of pure space (or of the spatial relations of matter), they can have nothing to do with Causation, which is concerned only with matter and motion in the concrete; but where there is no connature there is no rivalry.

The fourth chapter deals with the Uniformity of Nature, a phrase which, as the author points out, covers a good deal besides Laws of Causation and Coexistence. He first particularises Rhythmic Series, such as day and night and the seasons; and he considers these, though ostensibly sequent, to be best classed with coexistence (p. 101): so eagerly would he rob Causation to pay Coexistence. And yet his reason for it is that these rhythms have not "the causal characteristic of rigid regularity. But surely they are rightly treated by Mill as the progressive effects

[1] There are other passages in which Mr. Venn has the same remark upon Mill's doctrine of Natural Kinds. Indeed, his references to that author are, in several instances, inaccurate. At p. 279 he says, "the names of simple sensations, which, strictly speaking, possess denotation only, may yet, according to Mill, yield a kind of definition": whereas Mill expressly says that "the only names that are unsusceptible of definition" are those of the simple feelings, though the attributes founded on them and the things in which they inhere may be defined (i., 8, 2). At p. 470, he attributes to Mill the view that geometrical surfaces and lines are "a sort of entities that can exist apart"; whereas Mill says (ii., 5, 1), "nothing remains but to consider geometry as conversant with such lines, angles and figures as really exist; and the definitions, as they are called, must be regarded as some of our first and obvious generalisations concerning those natural objects". At p. 555 he says that Mill used the expression "fabled heaven" on his wife's tombstone; whereas the true phrase is "the hoped-for heaven," and the context would not bear "fabled" (cp. Prof. Bain's *J. S. Mill*, p. 167, note).

of more or less permanent causes; their whole methodological interest is causal; their explanation as derivative laws is obtained by appealing to causation. As Mr. Venn says, however, such cycles are neither necessary (for the causes might alter) nor ultimate; so that they seem not to deserve mention amongst the postulates of Logic as a special class of Uniformities. He next brings forward the Conservation of Energy, and shows how it supplements the ordinary law of Causation by more readily interpreting continuous changes; by assimilating the different forms that causes may take, electrical, chemical, &c.; and by providing for quantitative determination. Here the only criticism needed is that, as this law is not an Uniformity distinct from Causation, it would have been better treated of under that head. Mr. Venn then mentions the Statistical Uniformities which he has more fully discussed in his admirable work on Chance. And, finally, he advances a principle of Continuity to cover a miscellany of cases in which things remain without sensible change of position or nature for some considerable time; his example is a felled tree which the woodman expects to find next morning much as he left it. This expectation, he says, cannot "without extreme violence" be grounded on Causation; for causation, according to Mill, only applies to changes, and the phenomenon in question is the absence of appreciable change. But if I rightly understand Mill's meaning here, it is, that causation only applies to changes as distinguished from the absolute *origins* of primeval causes, not as distinguished from the duration of things subject to change. The law that every change has a cause implies what Prof. Bain would call the "material obverse," that where there is no change (in changeable matter) there has been no cause for it. How long a felled tree will lie without appreciable change depends upon the quality of its wood, the climate, and other causes of change; and it is upon his knowledge of these causes and the rate at which they operate that the woodman's expectations rest. If on his way home he should hear that an army of white ants was marching that way, he would be glad to sell the log pretty cheaply for ready money.

The above list of Uniformities might have been extended by adding the principles of Contradiction and Excluded Middle, the axioms of Mathematics, Mill's axiom of the Syllogism, the Persistence of Matter, and the commensurability of Times and Spaces: all which are Uniformities of Nature.

I see with dismay how long this review is growing, how little progress has been made with the volume in hand, and what an erroneous impression on the whole the reader must have of the impression the volume makes upon me. In vain have some critics warned the rest of us that fault-finding is the baser part of our trade: we feel an irresistible impulse that way, like those swine of the Gadarenes. In reality every chapter of the book is both entertaining and highly instructive; but it is impossible

to show this upon a scale corresponding with the foregoing objections without risking an action under the law of copyright. Some idea, however, of the remaining contents may be briefly given. After a chapter on the Subjective Foundations of Induction, Mr. Venn takes up Language, Terms and Propositions. The whole treatment of these subjects is remarkably fresh and suggestive. The chief apparent omission is some discussion of Mill's division of Propositions according to Equality, Coexistence, Sequence, &c. We next come to Definition and Division; and chapter xiii., on Classification, seems to me the best in the book. Chapter xiv. is on the process of Induction. Chapter xv., on the relation of the Syllogism to Induction, contains some very disputable matter. Then, after a luminous discussion of Hypotheses, we are brought to the Inductive Methods. Here there are excellent remarks on the shortcomings of the usual device for symbolically representing the phenomena investigated with their circumstances by means of letters, and important criticisms upon Mill's 'Joint Method,' with other points of interest. We next find chapters on Standards and Units physical and psychical, on Geometrical Data, and on Explanation. The work concludes with chapters, somewhat in the nature of appendices, on a Universal Language, on the extension of our powers of Observation, on the Ideal of Science, and on Speculation and Action. This last chapter treats chiefly of some of the ways in which a scientific investigator, especially when dealing with the laws of human society, may by his own conduct so modify the facts as to frustrate his conclusions. Toward the close of it the author suggests a general *Practic*, or theory of the *form* of Art, corresponding to Mill's Teleology, or system of the ends of Art.

CARVETH READ.

Knowing and Being. By JOHN VEITCH, LL.D., Professor of Logic and Rhetoric in the University of Glasgow. Edinburgh and London: William Blackwood & Sons, 1889. Pp. viii., 323.

This book, consisting of lectures given by the author to his advanced students last winter, is a criticism, or rather an attack upon what, "for lack of a better word," Prof. Veitch (like several other people) calls the "Neo-Kantian" way of looking at things (p. 11); and it is an attack of the most vigorous and vehement kind. If one did not know the writer's point of view, it might be difficult to understand this vehemence. But Prof. Veitch sees all things in Hamilton, and naturally feels himself uncomfortable amid a generation that knows not his master. He is evidently aggrieved that T. H. Green did not deal with the "Natural Realists" but only with the Sensationalists (cp. pp. 101 ff.). But Green was speaking to a generation that had been influenced by Mill. Prof. Veitch cannot expect to find his own position criticised

in Green; it has been criticised already in Mill's *Examination of Hamilton*—nay, long before that, in Berkeley's *Principles of Human Knowledge*. Yet, perhaps, a "Neo-Kantian" should welcome this protest of Prof. Veitch's as a clear indication of the complete difference between the position of Green and that of the "Intuitionists". The "Neo-Kantian" theory of knowledge and of morals has suffered great misunderstanding from being confused with the doctrines of the Intuitionist school, which can safely be left to the Sensationalist to deal with. The Neo-Kantian can hardly be expected to do over again the work of Locke, Berkeley and Hume. It becomes tiresome to kill the dead too often.

Prof. Veitch obviously cannot find any ground common to himself and the thinkers he is criticising. And I—the reader must excuse my speaking in the first person, because I do not know how far I am entitled to speak in the name of anyone else—I really cannot find any common ground with a Professor of Logic, who will not allow the use of the term *Prius* in any but the temporal sense. "No thought," we are told, "can be said to be prior to its object—these are contemporaneous" (p. 210). Are the distinctions laid down by Aristotle in the *Categories* (c. 12) not to be accepted any longer? They at least should have the merit, in Prof. Veitch's eyes, of being very old-fashioned: they are not—what he scorns so much—"new and advanced" conceptions (p. 239). All that I could say by way of argument against the main contentions of this volume, I have already said in a review of Prof. Seth's *Hegelianism and Personality* in MIND No. 50. I could only now repeat more strongly what was there urged; and I cannot find in Prof. Veitch's book the interest that Prof. Seth's awakened, because the former has clearly never for a moment allowed himself to occupy the position he is attacking. Referring to a phrase of mine about our having no resource but hypothesis regarding the relation of the timeless self to the individuals of time, Prof. Veitch exclaims (p. 247): "Yet this is a philosophy which scorns humbler systems, and professes to lay bare the universe!" I can assure Prof. Veitch that, though wishing to know all that can be known about the universe, I am much more diffident about what I know and can know than he is. *E.g.*, Prof. Veitch says: "I am conscious of a resisting force" (p. 199). Now, I may be conscious of being resisted; but I could not, in any careful use of language, say that I was conscious of a resisting force. If I said that, and attached any definite meaning to the very ambiguous term "force," I should be, in a rather careless expression, giving a hypothetical explanation of the feeling of which I am at the moment conscious. I (I continue to speak only for myself, or for those who may happen to be like me) am unable to consider myself conscious of things that are not in my consciousness. I do not claim to know things in themselves, nor anything about them. I only know the states of my consciousness, in Berkeley's phrase, my "ideas". Any-

thing beyond that is to me a matter of inference and conjecture. So that my opinion differs from Prof. Veitch's as to which system is the "humbler"—and, I should add, the more profitable.

Again, with reference to another phrase of mine in the same article (MIND xiii. 261),—'If I knew another individual person through and through, I should *be* that person,' Prof. Veitch remarks, "We are obviously in imminent danger of losing our individuality, owing to too great intimacy with our neighbour" (p. 248). He need not be alarmed in his own case; for (on p. 119) he assures us: "Nothing can be more foreign to me than another self".—Not even stocks and stones? It is a mysterious dictum; but still stranger remains behind. On p. 317 Prof. Veitch tells us: "I stand in contrast to God, the Supreme Ego, as not possessing the qualities which He possesses, or which I attribute to Him". As Prof. Veitch's consciousness reveals these things to him, the statements cannot be gainsaid; but another person would hardly like to have suggested them. These are matters, however, on which it is best not to dogmatise.

There is, indeed, *one* passage in which Prof. Veitch seems to promise us some common ground. He does attempt what, so far as I could find, Prof. Seth never did, a complete definition of Reality. (1.) On p. 113 it is said: "In its primary application the *real* means something apprehended as existing, in opposition to that which is not so apprehended, or in opposition to the absence of any appearance whatever". Thus the *primary* meaning of the *real* to Prof. Veitch is the *apparent* (cp. pp. 85, 86). The illusions of *delirium tremens* are terribly real—to the patient; but not to him if he recovers and becomes a sober man, nor, let us hope, to most other people. This does not seem a very "common sense" use of "Reality"; yet Prof. Veitch makes it "primary". (2) *Real* "means also what is supposed to be, whether it is an actual object of consciousness or not" (p. 115). Now, this certainly is what people generally mean by reality, and it is exactly what Green meant by "a permanent system of relations" and similar phrases. Even Prof. Veitch defines *this* reality in terms of our thinking, "What is *supposed* to be"; yet immediately afterwards he goes on to talk of this reality as if it were the "thing-in-itself". "It is reality outside of our consciousness" . . . "the real as having an existence in its own nature somehow for itself" (p. 116). But then he adds: "In the widest sense of the term, *real* embraces both forms of existence [the first and this second sense of *real*], though the latter, as not actually apprehended in consciousness, but only conceived by us, may fairly be regarded from our point of view as *ideal*" (p. 117). Could an Idealist ask for more? (3) "Further, there is still a third application of the term *real*. It applies not only to what is—to what is actually realised, but it is used for what may and ought to be." Is not this just the sense in which Hegel identified the Real and the Rational?

After this fairly satisfactory passage it is distressing to find that the writer continues in the same strain as before. His epithets of abuse for Neo-Kantian arguments are singularly rich and varied—"mere verbalisms," "empty verbalisms," "trifling verbalisms," "self-deceptive verbalisms," "tautological verbalisms". I will frankly admit that, "though the words are strong," I am generally very much perplexed in trying to comprehend the meaning of the book. Let the reader understand my perplexity from a few specimens, remembering that they are written by one whose business it is to use words precisely and who demands this of other people.

P. 4. "Although *being* does not appear as the *summum genus* of the categories of Aristotle, still it is there influentially." Is there here some confusion between Porphyry's tree and Aristotle's Categories?

P. 13. "Kant's method of determining those conditions—*viz.*, that known as Transcendental Deduction, or the Transcendental Deduction of the Categories." What is the meaning of the "or"?

P. 253. "Have we not thus a dualism, and a confronting, thwarting, irreconcilable Non-Ego? a Non-Ego in the shape of the lowest form of materialism—merely animal organism?" Is the animal organism a philosophical theory or "ism"? or is materialism, in Prof. Veitch's eyes, a kind of beast? The possibility suggests itself that "materialism" is merely a slip for "matter"; but, then, does Prof. Veitch hold that the animal organism is the lowest form of matter?

Pp. 303, 304. "But, further, there must be straightforward intellectual dealing with this 'thought,' 'organic reason,' or whatever it may be called, in which Man, Nature, God, are both [*sic*] moments, which is the unity of all, and which I am said to get as a presupposition of my self-consciousness,—consciousness of subject and object in experience." The grammar could only be justified at the risk of exposing Prof. Veitch to the charge of "a desolating Pantheism," or something equally terrible.

P. 311. "How then could this grand Monism come to anything but the most isolated Monadism? Certainly nothing else." How is one to parse "nothing"?

Pp. 315, 316. "These are in the mind as the subject of inherence—as its special constitutive properties." The two "as's" create a difficulty.

P. 322. "The only philosophy and the only religion worthy of the name is that which, &c." Prof. Veitch may intend to identify philosophy with (his) religion; but if so, why does he trouble himself with philosophy at all?

These examples may serve to excuse the feeling of baffled bewilderment which the book produces. There is often great difficulty in knowing to what opinions exactly the criticisms refer. Prof. Veitch certainly gives quotations from Green; but he

makes us wonder whence have come his ideas about Hegel. Thus on p. 319 it is urged that "the indefinite—the indefinitely increasable—never can be identified with the infinite". This is said as if it went *against* Neo-Kantians and Hegelians! With a feeling of relief the reader lights upon *one* actual quotation from Hegel with a reference attached (p. 308 and *note*); but the reference is to "Hegel, *History of Philosophy*, pp. 9, 10 (Eng. ed.)". The passage cited comes, not from a book of which there is no English translation, but from the *Philosophy of History* (Bohn's Series).

Towards the end of the volume we find the reason that compels Prof. Veitch to his uncongenial task of tilting against the new philosophy (as he considers it). He thinks it adverse to the interests of ethics and religion, and that in his own appeal to consciousness he has a securer defence for the beliefs he values most. There are one or two passages by which the worth of this appeal can be estimated, *e.g.*, p. 162: "The nature here referred to turns out to be not *what we ordinarily suppose nature to be*—something in opposition to intelligence, the one member of a dualism in which intelligence is the other member." Again, p. 301. "The facts" of religion are said to be "so eviscerated of meaning" [in a Hegelian Philosophy of Religion] "as to cease to be *what they were formerly regarded*". (The italics are mine.) It is obvious from such passages that Prof. Veitch brings with him a standard of customary uncritical opinion with which to judge philosophical theories. A saying of Hamilton's occurs to the memory: "Consciousness is to the philosopher what the Bible is to the theologian" (*Lectures on Metaphysics*, i. 83). Each can find in it the dogma he wishes to find.

But in the revelation of Consciousness Prof. Veitch seems to find things that we should have thought not at all acceptable to orthodox belief. It may reasonably be objected to the late T. H. Green that he philosophised too much, and not too little, in the interests of theology. But in the matter of orthodoxy neither St. Paul nor St. Augustine nor St. Athanasius would fare well at the hands of Prof. Veitch. Because of a rash phrase used to the Athenians, St. Paul would be accused of "a domineering and desolating Pantheism" (p. 311). When St. Augustine said: "Non est mundus factus in tempore, sed cum tempore," he would doubtless be told that he had emptied of meaning the idea of creation (p. 21): and there is a solemn joke about "an unparalleled and unbegotten *twinity*" (p. 22) in reserve for the opponent of Arius.

Of course, these heterodox tendencies would be quite irrelevant, were it not that Prof. Veitch evidently judges philosophical systems according to the degree in which he thinks they serve the interests of his theology. He appears to have an affection for atoms (p. 303), which might indicate a leaning to pure materialism. And in one place (p. 54) he appeals to "the

scientific man". Perhaps if Prof. Veitch would follow scientific men, who also take an interest in philosophy, like Prof. Huxley or the late Prof. Clifford, he would look more favourably on such thinkers as Berkeley and Spinoza, and would write more profitable criticisms on Hegel and Green.

D. G. RITCHIE.

L'Activité Mentale et les Éléments de l'Esprit. Par FR. PAULHAN. Paris: F. Alcan, 1889. Pp. 588.

This is not, as the title might lead us to suppose, a work on the lines of the later psychological thought, which treats of the active as opposed to the passive side of mind, and shows how in all mental phenomena, even sensations, there is involved a mental activity reacting on, combining and rearranging the passively given elements. M. Paulhan does indeed aim at exhibiting the essential activity of mind, but his conception of this activity (and of mind in general) is very different from that of most modern psychologists. He does not recognise in mind a central activity constantly assimilating and synthesising elements; on the contrary, while asserting the need and the universality of systemisation or synthesis of elements, he regards the system-forming activity as a tendency inherent in the mental elements themselves, a tendency so to *associate* as to form systems. The mental activity treated of is then an associative tendency, and we have here a return to the old standpoint of the English Associationist school (of which, as he tells us, M. Paulhan was formerly an adherent), though with a considerable difference. Combined with the associationist point of view is the post-Kantian recognition of the value of synthesis, and also a new governing principle, that of "finality," introduced by M. Paulhan himself, in place of mere contiguity and resemblance. And there is further the important difference that, although, as we have said already, the activity of the mind is not conceived as primarily or essentially a central activity, we do yet arrive in M. Paulhan's exposition of Associationism at a relatively central activity; for the elements lose their independent activity, or at least retain it only in a lesser and latent degree, so soon as they are associated into a higher system. The activity of the elements is in a great measure transferred to the system of which they form a part, and such a system (especially in the culminating form of mind or personality) has thus, acting as a whole, an activity superior in degree to that of the subordinate elements. Thus, when a mind is once formed, it can "associate" fresh elements in a manner not unlike the 'synthetic activity' recognised by other psychologists, and the relation between the "condensed" activity of mind, so to speak, and the relatively passive, because unsystematised, elements answers in

some degree to the relation between the active and passive mental elements. But although with this new associationism we arrive in mind at a very superior piece of mechanism, it is a piece of mechanism only, and the laws of its composition are merely mechanical laws; while the claim of "finality" to be the universal and fundamental principle of mind is as likely to be disputed as that of contiguity or resemblance. In M. Paulhan's conception of mind there is, however, much that is suggestive, if not convincing, while his treatment of the subject is clear and always copiously illustrated.

M. Paulhan treats first of the elements of which mind is composed, then of the laws of its composition, and finally of mind as a whole, in its concrete manifestations, and in its relations to the physical world and to society.

As regards the mental elements, M. Paulhan does not, like the older associationists, stop at sensation as the ultimate unit. In the light of later psychological analysis, it is evident that what we ordinarily think of as single sensations are really complexes, and from M. Paulhan's point of view they are *systems* formed by that same associative activity which at a later stage produces minds. The ultimate psychical elements he identifies with Mr. Spencer's nervous shocks, but as we know them they are already formed into systems, each with its own independent activity unimpaired so long as it is unattached to a higher system, but losing it as soon, and in so far, as it is thus subordinated. Thus, in the highest psychological system, the *ideal* mind, when subordination is complete, there is only one centre of action, and none of that conflict between systems which is found in all *actual* minds. Some expressions which occur later in the book make it a little doubtful how much M. Paulhan intends to attribute to the most elementary systems. Their inherent activity one naturally supposes to be the tendency to systematic association, which indeed is the only kind of activity clearly recognised anywhere; but when later we are told that the subordinate systems also think, remember, &c., each for itself, the conception of the psychical elements seems changed from combinations of nervous shocks to Leibnizian monads. Still, taking the whole treatment into account, it seems clear that such expressions can be only intended to apply to the more complex subordinate systems, such, *e.g.*, as manifest themselves as complete sides to a character, and in certain pathological cases give rise through their independence of action to the phenomenon of a double-personality. These and similar pathological cases seem indeed to have very strongly influenced the whole of M. Paulhan's conception of mind as a "system of (usually subordinate, but sometimes insubordinate) systems". So far from really conceiving thought and other conscious manifestations as activities inherent in the elements as well as in their combinations, he treats of them in detail as phenomena at once manifesting and

resulting from the laws of systematic association, precisely as sensations and unconscious tendencies, and, except in respect of complexity, on precisely the same level as these. For, however much or little M. Paulhan intends to ascribe to the ultimate psychical elements, there is no mistaking his statement that all differences in the higher mental phenomena are due to differences "in the elements and in their grouping;" and, as he gives no hint of differences between one nervous shock and another, the differences in phenomena must ultimately rest upon differences in grouping only.

The laws which govern this grouping occupy in their exposition and application the greater part of the work. The novel idea introduced by M. Paulhan as determining association is, as has been said, that of "finality"; and his main law is of systematic association in view of ends with its complementary law of inhibition in view of ends. The statement of these laws is as follows: "Tout fait psychique tend à s'associer et à faire naître les faits psychiques qui peuvent s'harmoniser avec lui, qui peuvent concourir avec lui vers une fin commune ou des fins harmoniques, qui, avec lui, peuvent former un système," and "Tout phénomène psychique tend à empêcher de se produire, à empêcher de se développer ou à faire disparâitre les phénomènes psychiques qui ne peuvent s'unir à lui selon la loi de l'association systématique, c'est-à-dire, qui ne peuvent s'unir avec lui pour une fin commune"; and the operation of first one and then the other is exhibited at some length in sensations and perceptions, in the intelligence (images, ideas, judgment, reason), in phenomena of feeling and tendencies, in "le pouvoir personnel" (consciousness, attention, will), and in the personality. M. Paulhan is careful, however, to warn us that these various phenomena are not of importance in themselves, but only as examples or illustrations of the one essential phenomenon—the "activity of the various tendencies produced by the different mental groupings". Perceptions, ideas, and so forth are not themselves so much active tendencies as accompaniments of such tendencies. And, in fact, in the detailed account of these several phenomena it is not the phenomena themselves which are described or explained, but the associative activity as manifested in these. M. Paulhan does not apparently so much fail to recognise the inexplicability of consciousness and the various conscious phenomena by his laws of association, as considers this of no importance; he looks upon consciousness in its various forms as a mere insignificant accompaniment to the one essential associative activity, an activity which is not itself conscious, being present equally in reflex movements and, as we shall see later, in phenomena which are not psychological at all. And yet the failure of this point of view is strikingly shown in the chapter on the intelligence, where M. Paulhan quotes a criticism of M. Janet's on the English Associationist school. He allows the force of the argument that thought (*e.g.*, judgment) cannot be

explained by association, as holding against association by resemblance or contiguity, but conceives that the case is altered when the notion of "finality" is substituted. He says: "Mais la théorie associationiste prend un autre aspect si l'on remplace les principes de ressemblance et de contiguité par le principe de la finalité immanente. Un livre qui est devant moi a une couverture jaune-orangé. Le jugement que je porte sur sa couleur n'est pas seulement une juxtaposition de la couleur jaune-orangé et des autres qualités qui, pour moi, constituent ce livre; c'est une synthèse systématique; et j'entends par là que certains rapports sont établis entre cette couleur et les autres qualités—rapports qui, *étant perçues par moi*, servent à faire naître en moi certaines autres idées ou à diriger certains actes". The words "étant perçues par moi" are not italicised in the original, but it is sufficiently evident that the force of the argument rests upon the substitution of a conscious relation for that between a higher (*i.e.*, more complex) system and a lower one. To these primary laws M. Paulhan adds a third, derived from their combined action in all cases where systematisation is incomplete, with conflict in all actual minds as result (though not in the ideal as yet unattained). This is the law of contrast, of which we need perhaps only say, that it includes much of what is usually called reaction, and that here too a certain confusion arises from the want of a distinction between conscious and unconscious phenomena. More briefly the laws of resemblance and contiguity are also treated of, being resolved into special forms of systematic association; not the relation of resemblance or contiguity between the elements, but their relation to a common system is the bond of connexion.

There is one thing to be said in favour of M. Paulhan's account of the nature and laws of mind, that, if it is an accurate description and a sufficient explanation of the normal mind, it does away with the difficulties connected with the abnormal phenomena of double-personalities and the like. If mind is essentially a system of systems, it is readily comprehensible that it may take the form of two main co-ordinate systems, or, since in the best of actual minds systematisation is but imperfect, that a properly subordinate system may act for itself in defiance of the main system. It is scarcely necessary to observe that this is not enough to justify a theory which fails to explain, almost to recognise, the essential characteristics of mind in general; which reduces consciousness to a mechanical activity, or conceives it as a more or less insignificant accompaniment to such activity; and which, without accounting for its origin or the variety of its manifestations, degrades consciousness from its usual place as *the* subject-matter of psychology, as a special field of experience requiring full and patient investigation. But these pathological facts have evidently had great weight with M. Paulhan; it is under their influence that he denies the essential unity of mind,

and bases such unity as he recognises on systematisation and connexion with the organism. Throughout the work his copious illustration is almost exclusively drawn from pathology, and one cannot but feel that his psychology is primarily intended to explain these abnormal phenomena, while the characteristics of everyday mental life are read too exclusively in their special light.

The third part, though much shorter and rather supplementary to the main exposition, is perhaps the most interesting and suggestive to a reader who is not convinced by the psychological theory. In it M. Paulhan treats of mind as a whole; exhibiting the operation of systematic association first in such concrete "partial synthesis" as love and language, and then in a complete personality. For this he takes Darwin's life as an example, and traces in an effective way the appearance, suppression or persistence of various conflicting elements and the gradual formation of a harmonious system with a definite and governing end. He next passes to the more abstract consideration of mind in its relation to the organism and to external phenomena both physical and social. The notion of mind as a compound of psychical elements (presumably consciousness) plus the brain—the latter being a complex of sensations, &c.—is not very material to M. Paulhan's general theory, but may be touched on as an instance of what seems a more general confusion of the actual difference between mind and matter. The brain and the correlative psychical phenomena are conceived as two series really conjoined but only observed apart, answering to the appearance of a flute and the sounds proceeding from it but not necessarily known to proceed from it. It is obvious that the analogy will not hold; for, apart from the essential distinction between introspection and an external sense, the *same* observer cannot perceive the conscious series and the conjoined organism, but must examine his own consciousness and another's organism. M. Paulhan's treatment of mind in relation to its surroundings is marked by greater freshness, while his view of the place of psychology among the sciences serves to illustrate and explain his theory of mind. Degree of systematisation is what serves to distinguish the subject-matter of psychology from that of physiology on the one hand and sociology on the other. No hard and fast line can be drawn, but psychology occupies a midway position, its higher systems being social elements as its elements are physiological systems. In this relation to sociology, too, we have the only general description of psychological "finality". It now appears that the end for psychology of systematic association is fitness to become a social element and to respond to the social activity. Degree of systematisation is also what distinguishes mind from its elements, the relation between them being compared to that of a watch to the parts of which it is composed. The view of mind in connexion with its surroundings is of subordinate importance in the psychological account of its laws and

nature, but is an interesting application of the notion of systematic association to mind in its developed form and as operating in a complex and developed society. Noteworthy, also, is M. Paulhan's view of the influence exercised by the mental background (or the main system) on the new elements presented to the mind and of the consequent difference in the way of looking at things where previous experience has been different, as again of the influence of the condition of society in determining the general mental background. There can be little doubt that, however the conception of systematic association may fail to yield a theory of the nature and development of mind, it is of real service for the treatment of such facts as these, or for such analysis of developed character as M. Paulhan attempts, with striking effect, in the case of Darwin.

M. E. Lowndes.

Geschichte der Ethik in der neueren Philosophie. Von Friedrich Jodl, o. ö. Professor der Philosophie au der deutschen Universität zu Prag. Band ii. "Kant und die Ethik im 19. Jahrhundert". Stuttgart: J. G. Cotta'sche Buchhandlung, 1889. Pp. xiii., 608.

The second volume of Prof. Jodl's history, completing the work, fully maintains the high reputation gained by the first volume (reviewed in Mind viii. 295). It is in all respects a masterly production: as well in comprehensive knowledge of the literature of the subject, in insight into both the speculative ideas and the wider influences which determined ethical thought, and in lucid as well as logical style of exposition. The present volume is divided into three books: the first dealing with German ethics from Kant to Feuerbach; the second with French ethics, chiefly Cousin and Comte; the third with English ethics from the Scottish philosophers to J. S. Mill. Feuerbach, Comte, and Mill: these are the final stages for Germany, France, and England respectively. With later writers the author does not deal. The living do not belong to history. We cannot but regret this omission of more recent work, as well as the omission of the review of results which the author promised in his first volume, but which he now finds would need a volume for itself. Yet it is not difficult to discover from the author's mode of treatment what he considers to be the outcome of the systems, through the intricacies of which he treads with so sure a step. It is not by accident that the development of the three great national philosophies is made to end, in each case, in a form of positivism. Like many noted historical works — Lange's *Geschichte des Materialismus*, for instance—this history of ethics is a *Tendenzschrift*. And its purpose seems to be to show, from the evolution of ethical ideas, that naturalism is a sufficient basis for morality.

The dependence of ethical ideas upon the method and results of an author's general philosophical conceptions is usually so close and intimate that a history of ethics must contain much more than ethics to make these ideas clear. The connexion is recognised by Prof. Jodl; yet his tendency is to treat ethical principles, as far as possible, by themselves, or to connect them with the circumstances and ruling ideas of the time more closely than with the developments of speculative thought of which they may have been but the highest result in an author's mind. And it is difficult to see how an historian can do otherwise, without going a long way towards writing a history of metaphysics as well as of ethics. Yet there are obvious difficulties connected with the author's mode of treatment, especially in its application to Kant and the systems immediately succeeding. It creates the false impression that the ethical ideas of a system can be fully understood by themselves, and that the development of ethical systems can be traced apart from the development of the underlying metaphysical conceptions. To a large extent this can be done in dealing with the English moralists of last century. But the same cannot be said of many of the systems with which the present volume deals.

The exposition of German ethics given in bk. i. occupies nine chapters. The first of these deals with Kant, or the ethics of the categorical imperative; the second, with Schiller's æsthetic morality; the third, with Fichte, or the ethics of creative genius; the fourth, with speculative idealism—Krause, or the standpoint of mystical feeling, and Hegel, or the standpoint of dialectical construction; the fifth is entitled "Speculative reconstruction of Church doctrine," and treats of Baader, Schelling and again of Hegel. The sixth chapter is on Schleiermacher and the harmony of Idealism and Naturalism; the seventh, on Herbart, or the ethics of æsthetic formalism; the eighth, on Schopenhauer or the ethics of Pessimism; the ninth, on Eudæmonism—Beneke's psychology of morals, and Feuerbach's positivism.

It is chiefly in the criticism of Kant, Fichte and Hegel that the want of fuller metaphysical treatment is felt for understanding the connexion of the systems. The discussion of Kant's ethics is brief, but brings out clearly his leading conceptions, and sharply emphasises the contradictions involved in his use of them. Yet both the nature of these conceptions and Kant's failure in applying them can only be satisfactorily explained through bringing out their intimate connexion with the positions of the *Kritik der reinen Vernunft*. This is not brought out, and the resultant judgment of the author on Kant's ethical achievements is consequently, as it seems to me, unduly severe. Kant's distinction from the English Intellectualists, Cudworth, Clarke and Price, from whom it requires some trouble, according to Prof. Jodl, to distinguish his standpoint (p. 43), consists just in this that Kant does, and they do not, attempt to show how the absolute nature

of morality is connected with the ideals disclosed in the pure reason. It is true that Kant's ethics, like his epistemology, never gets rid of the inconsistencies flowing from that "dualism of sense and reason," which, as Prof. Jodl says (p. 32), dominates his whole thought. But the recognition of this dualism, and the constant endeavours to reconcile its conflicting elements, clearly mark off Kant's position from the abstract intellectualism of the English school, and show the fuller import of his thought, if they also betray its radical defect. In spite of the "hidden sophisms," which Prof. Jodl says are combined with the "convincing truth" in Kant's definition of morality, its "fatal influence" (p. 15) is not made apparent.

The discussions of Fichte and Hegel are appreciative and interesting. In Fichte, Prof. Jodl sees the highest form of the ethics of the categorical imperative; while Hegel's mode of grasping and explaining the fundamental facts of law and morality is subjected to a critical estimate "with complete disregard of the metaphysics of the system" (p. 19). Yet here, as in the criticism of Kant, the avoidance of metaphysics is a loss. If we keep to purely ethical ground we can only see the superficial points of connexion between the Fichtean and Hegelian ethics and the Kantian. Especially in the case of Fichte, it is the connexion of metaphysical points of view that is of greatest importance and that determines the fundamental character of the ethical conceptions.

Outside the direct line of the "metaphysical succession" this difficulty becomes less troublesome. Special praise is due to Prof. Jodl's account of Schleiermacher's ethics, to which he assigns a prominent and important place from its comprehensive treatment of human morality as part and member of the reciprocal life of nature and mind (p. 161). Herbart is made to head the opposition to the Kantian movement—an opposition continued afterwards in very different ways by Schopenhauer, Beneke and Feuerbach. With Herbart, judgments of value or worth take the place of cognitive notions of morality; and ethics is consequently completely separated from metaphysics. As Prof. Jodl points out, we have in Herbart a revival, in more elaborate and formal manner, of the æsthetic morality of Shaftesbury and Hutcheson. Herbart "held an intermediate position between Kant and German Eudæmonism similar to that which Hutcheson and Shaftesbury held between the pure utilitarians and the pure intellectualists in England" (p. 200). The similarity of Hutcheson's positions to those of Herbart seems to me especially great. In addition to other points of similarity, which he shares with Shaftesbury and Adam Smith, his treatment of the sense of beauty is in such close correspondence with his treatment of the moral sense as to suggest at once the assimilation of moral to æsthetic judgments. At the same time, Prof. Jodl properly emphasises Herbart's differences from his English predecessors.

For the moral sense he substitutes a judgment of value; while he does not, like them, determine the nature of morality by a reference to general happiness. In these respects Herbart's standpoint bears more resemblance to some forms of modern English intuitionism. And Prof. Jodl's criticism of the practical ideas of Herbart—that they afford no means of understanding the history of morals and the development of moral standards and criteria—is just the criticism which modern forms of intuitive ethics find most difficult to meet.

With the discussion of Beneke's ethics we come upon more direct influence of English thought. It was Beneke, says Prof. Jodl, who made Bentham's theory of legislation into a system of ethics, by passing from an external to the internal standpoint, and finding the distinction between law and morality in the distinction between the consequences of actions and the worth of dispositions (p. 252). The subjectively-formal principle of the good will is added to the objectively-material principle of universal happiness; and this is regarded as a combination of "German idealism" with English empiricism (p. 259).

In Feuerbach, German ethics arrives at what the author seems to regard as its consummation. Feuerbach's Hegelian stage was, according to the author, only a transition-period in his development similar to Kant's period of English empiricism. His final stage is a return to Eudæmonism, supported by an empirical theory of the origin of moral notions and impulses. In its origin, conscience is but the result of the power or opinion of another. "The voice of conscience is an echo of the injured man's cry for vengeance" (p. 280). In its development it leads to the ideals which are the only supernatural. With his exposition of this German positivism—from which all criticism is significantly absent—the author closes the first book of the present volume.

Bk. ii., on French ethics, consists of three chapters: the first on the ethics of Spiritualism, dealing with Cousin, Jouffroy and Proudhon; the second on Comte and positivism; and the last on the ethico-religious problem as dealt with by those thinkers. A full account is given of the movement of French thought initiated by Cousin, whose famous eclecticism is described by Prof. Jodl as Hegel's method of treating the history of philosophy translated into French (p. 296). On the movement as a whole, the author's criticism is severe, though perhaps not too severe. He adopts Proudhon's judgment that "the spiritualism of the 19th century, instead of completing the work of the 18th century, called German and Scottish and Platonic philosophy to its aid, and, from fear of materialism, became the standard-bearer of reaction" (p. 325). But the author is surely a little hasty in crediting it with the moral defects which he finds in the French people of the time.

A more sympathetic and equally interesting account is given of Comte's ethics. The emphasis Comte laid upon the organic

basis of morality separated him clearly from the one-sided school of Condillac and Helvetius; but the author contends that his principles include, and do not exclude, Utilitarianism. And this, at any rate, may be admitted: that if modern naturalism continues to define the morally good in terms of pleasure, it must yet seek elsewhere—in the conditions of life and in social development—for the explanation of the moral disposition.

In opening bk. iii.—that on English ethics—the author remarks on the different character which the philosophical movement of the 19th century bore in England from what it did in Germany and France. In the former it did not, as it did in the latter, undergo entirely new developments of thought, but quietly continued in its former course, until the influence of the new German culture made itself felt. Thus the author says very strikingly:—

> "If by any accident everything were lost which England has done of a humanistic and philosophical kind since 1770, the English people would certainly lose much that is beautiful and of value; but they would still remain in possession of a culture in all essential elements the same. Were the same fate to overtake Germany, she would be simply a beggar dependent on her gleanings from foreign wisdom and foreign art" (p. 400).

This is certainly true on the whole. Yet, in a comprehensive work like the present, some further recognition might have been looked for of the influence of the French Revolution upon the writers of the end of last century—writers, for instance, such as Godwin on the one hand and Burke on the other. Perhaps their position, almost at the meeting-point of the two centuries, has led to their being dropped out between vol. i. and vol. ii.

After a chapter of general characteristics, this book deals in succession with the Intuitive school—Stewart, Whewell and Mackintosh; and with Utilitarianism—Bentham and J. S. Mill. A final chapter on the ethico-religious problem concludes the volume.

Great praise is due to the author for his thorough knowledge of this period of English thought. There is an almost complete absence in his book, not only of the minor errors which any writer is apt to fall into, but also of that want of due perspective which it is so much more difficult to avoid in treating of a foreign country. The citation of Sedgwick's famous *Discourse on the Studies of the University* (a Trinity College Commemoration Sermon) as a "Cambridger Rectoratsrede" (p. 600) is surely the most venial of errors. It is a more serious misunderstanding, however, to say that J. S. Mill "was obliged to reserve his last word for posthumous publication so as not to incur the odium of the society from which he got his daily bread" (p. 554). This is in direct contradiction of Miss Taylor's evidence in the "Introductory Notice" to the *Three Essays on Religion:* "The volume

now given to the public was not withheld by him on account of reluctance to encounter whatever odium might result from the free expression of his opinions on religion". The delay was simply caused by his caution in forming and expressing opinions —especially on religious subjects—until they had stood the test of time and repeated examination. Perhaps it should also be said that in the last chapters the picture is incomplete which paints in striking colours the attitude of Byron and Shelley, and finds no place or mention at all for Wordsworth, in spite of his much greater influence and the more representative character of his ideas.

With regard to the strictly ethical writers, it may seem that greater prominence is given to Whewell and Mackintosh than their importance warrants. Yet, within the author's prescribed limits, no better examples could be found of the types of thought he has to criticise.

The treatment of Bentham and J. S. Mill will be turned to with more interest, both on its own account and as revealing to some extent the author's own position. The merits and defects of Bentham's work are touched upon with good judgment: his assumption of the greatest-happiness-principle as axiomatic being given as an example of his want of philosophical interest (p. 433); while his great merit in systematically applying the principle and his importance as the English representative of the philosophy of the Revolution are pointed out. The onesidedness of his theory consists, according to Prof. Jodl, in its purely legal and external character, and its reduction of all subjective tendencies to morality to egoism. How Bentham's view was deepened and, so to speak, moralised by J. S. Mill, is shown in the author's interesting and sympathetic, but, as I cannot but think, unsatisfactory, account. It would almost seem as if the author were too much in sympathy with the different lines of thought which meet in Mill to show the difficulty he had in reconciling them. Mill went a long way towards giving up his traditional creed in ethics as well as in political economy; and a certain air of incompleteness cannot but belong to any account of the development of thought of which he is the final stage. This adds to our regret that the author's conception of his subject has prevented him from carrying any further the lines of thought which were beginning to be opened out. But, as it is, his work is to be welcomed as the most thorough, penetrating and lucid account of modern ethical systems that has yet appeared.

W. R. Sorley.

Warnehmung und Empfindung. Untersuchungen zur empirischen Psychologie. Von GOSWIN K. UPHUES, Privatdocent der Philosophie an der Universität Halle a. d. S. Leipzig: Duncker & Humblot, 1888. Pp. xiv., 289.

Ueber die Erinnerung. Untersuchungen zur empirischen Psychologie. Von GOSWIN K. UPHUES, Privatdocent an der Universität Halle a. d. S. Leipzig: Duncker & Humblot, 1889. Pp. xii., 100.

These two books have in common the attempt to establish a direct knowledge, given in external perception, of an object distinct from states of consciousness. Knowledge, as the author puts it, is first directed to the exterior and not to the interior. It is therefore with perception in some form, and not with sensation, that we must begin the psychological construction of actual knowledge. In the volume on *Perception and Sensation* this view is applied chiefly to the problem of the external world. Dr. Uphues's later essay seeks to explain memory as a form of "mediate knowledge" requiring for its basis a knowledge of external objects, to which the images or "representations" that are the immediate object of memory are referred. The earlier book being in great part critical, and its positive argument being repeated at the beginning of the later, *On Memory*, this essay of 100 pages, rather than the larger volume, may be selected for special examination. Of the earlier volume it may be said here that its critical part is distinguished by careful attention to the work of English writers of all schools, and that the author's realism is limited in an interesting way by the distinction drawn in the concluding pages between the merely "momentary" reality which he supposes to be given immediately with each kind of sense-impression and the highly mediated knowledge which is all that he supposes us to have of things as persistent realities (pp. 282-9).

"External perception," Dr. Uphues maintains in the introduction to his shorter essay, "is the immediate knowledge of something external, internal perception the immediate knowledge of something internal." This position is founded on a distinction between "sense-impressions," or "sensible qualities," and "states of consciousness". Sensible qualities, not being states of consciousness, are not "subjective" or "internal". There is therefore nothing to hinder their being known directly as belonging to external things. The impressions of all the senses, instead of appearing first as subjective and internal, and being afterwards "projected" outwardly, from the first "press upon consciousness or press themselves upon it". For this reason there appears in them a "for itself," our knowledge of which is strictly immediate, "not nominal, not conceptual". This "for itself" opposes an obstacle to our activity. We learn to know it with special clearness in our muscular sensations of hindered effort. "Internal

perception" is the special act by which knowledge of states of consciousness becomes possible. Like external perception, it is immediate, "not nominal, not conceptual". The difference is that it is not a relation to something external, but to states of consciousness as such. "It is a simple apprehension of states of consciousness as states of consciousness, or as furnished with the mark of being conscious, and inseparable from it." Memory is the first stage of mediate knowledge, or knowledge by representations. In memory, representations are recognised as images of the objects of immediate knowledge. A further stage of mediate knowledge is that in which objects are known by inference, through concepts. In this stage representations are applied to objects of which they were not originally formed as images. For memory it is not necessary that the original psychical states themselves should remain; it is sufficient that their images should rise again in consciousness. The representation, or present image, is not the object in memory, but is referred to the object. The essence of memory is the conviction of having perceived before the object that is now thought of. This conviction is mediate knowledge. All our immediate knowledge in memory is of present representations. The present content of consciousness is not "posited" as past. It is immediately known as present, and in relation to it the past is known as past. The relation to the past object is the relation to the object foreign to consciousness, or to the object in itself; and this relation is only possible by means of a "conviction". Along with representation of an object belonging to the past, memory includes as an equally essential and indispensable constituent the representation of our earlier perceptive activity directed to the past object. The representation of the former act of perception, however, for the most part does not come in a clear and distinct manner before consciousness; we usually think expressly of nothing but the formerly perceived object. This representation of the past object simply as an object is at first quite indeterminate. It gets all its definiteness from the present representation in memory.

Such, in outline, is the general result of the author's investigations. So far as developed memory is concerned, it may be at once admitted that this involves reference to objects thought of as having existed in the past. When we first begin to examine memory introspectively the thought of an object-world is, of course, already completely formed. The question really in dispute concerns external perception. Is some kind of perception to be assumed as an ultimate element in knowledge, or can perception be derived psychologically from elements of feeling and the relations among them? Our "conceptual" knowledge of objects, the author admits, cannot be assumed as present from the beginning. It has to be analysed into its elements, and then explained scientifically from these. In common with other

psychologists, he takes "sense-impressions" as his elements. His difference from those who carry analysis furthest begins when he lays it down that sense-impressions are from the first known as external to one another in space; for that seems to be the result of his discussion of the meaning of "externality" (*Ueber die Erinnerung*, pp. 11-15). Further, he tries to find in the sense-impression itself an element which is somehow prior to sensation and yet forms the essential part of knowledge. Here, as might be expected, he does not succeed in giving anything but approximative descriptions of certain modes of feeling. All that can really be shown is that "modes of feeling" are later to be explicitly recognised than the objective side of knowledge. But this is no argument at all that, when recognised, they are not to be taken as psychologically prior. As to "externality," the question for readers to decide is whether analysis has not been carried beyond the point to which the author carries it. If analysis has gone a stage further, then his realism, attenuated as it is, loses the psychological support he attempts to give it. From the philosophical point of view, he thinks that to banish realism would make knowledge illusory. But what, in this case, becomes of our "conceptual" knowledge of things, which, as he himself holds, is not immediately "given"? The experiential answer is that conceptual knowledge of external objects has its real meaning in the possibility of verifying the judgments into which our conceptions of things enter by reference to sense; and this is probably the answer that Dr. Uphues would make. Does his theory of "externality" as primitively given in sense-impressions add anything to the verification of this most developed form of knowledge? If not, the validity of knowledge in general can hardly be dependent on it.

THOMAS WHITTAKER.

VI.—NEW BOOKS.

[*These Notes* (*by various hands*) *do not exclude Critical Notices later on.*]

Natural Religion: the Gifford Lectures delivered before the University of Glasgow in 1888. By F. Max Müller, K.M., Foreign Member of the French Institute. London: Longmans, Green & Co., 1889. Pp. xix., 608.

Invited last year by the Glasgow professors to become their first Gifford lecturer on Natural Religion, the author, with his splendid facility, was not only ready by the winter-months with the twenty lectures which he supposed were required of him for his introductory course, but also was able at once, as soon as they were delivered, to give them to a wider public in the present volume. Apparently (p. 25) he has allowed the unsought academic call to determine for him the mould into which shall be cast that crowning work of his philosophic life which he shadowed forth to the readers of *The Science of Thought*. This was to be a "Science of Religion," prepared for by all that in one way or another he had ever been able to make out and set forth concerning the human faculty of thought-speech or spoken-thought. In the lecture-form now accepted (rather than adopted) for the work, the ground would be covered in four courses altogether. Upon the present introductory view of "Natural Religion," defined and then surveyed in respect of its method and materials, Prof. Müller would proceed (p. 164) to treat, in order, of "Physical Religion," "Anthropological Religion" and "Psychological Religion". "Physical Religion" is all that, under the two-year rule of tenure of the Gifford lectureship, he can in the first instance commit himself to (p. 574); but one may pretty confidently predict, as well as hope, that the Glasgow Senatus will not fail to renew its mandate for the necessary two years more, since (by the founder's deed) even six successive years may be allotted to one lecturer. We should thus end by learning more exactly than can be gathered from the concluding paragraphs of the present volume how his three divisions of Natural Religion are related to the threefold conception of God as Father, Son and Holy Ghost. The division is based on the fact, as he takes it (p. 164), that "Nature, Man and Self are the three great manifestations in which the infinite in some shape or other has been perceived" by man; religion being at last, after a quantity of curiously mixed reckoning (as is the *philosophical* way of Prof. Müller) with all manner of thinkers, declared (p. 188) to consist "in the perception of the infinite under such manifestations as are able to influence the moral character of man". The practical reference is now for the first time added, in obviation of hostile criticism directed against previous definition by the author, but does not seem to count for anything in his argument as still conducted. His chief position remains what it was: that knowledge, as beginning with or from sense, is essentially finite at all stages, but yet "the limitation or finiteness," in whatever way taken, "always implies a something beyond" (p. 122), which he calls the infinite. The "always" is not very clear, for we are soon told of such sensible objects as "stones, bones, shells, flowers, &c.," that these "are complete in themselves and no one" [What! Not even the poet who plucked a certain flower from 'the crannied wall'?] "would suspect anything in them beyond what we can see and touch" (p. 150); but, however this may be, Prof. Müller is sure that it is quite otherwise

with trees, mountains, rivers, &c. Again, he might have made it more clear how exactly from his declared basis of sense—limited to sight, touch, hearing, smell and taste—he arrives at a knowledge not of Nature only, nor only of Man as object, but also of Man as subject or self. Perhaps it may be enough here to remark that the psychology involved is of the same extremely general, not to say rudimentary, character as was made to do service in *The Science of Thought*. But the lectures, as a whole, must have been good to hear. Profusion of personal reminiscence, dear always to mixed audience; swiftest kaleidoscopic turning of subject, not less dear;—nobody has the art of them like Prof. Müller.

Kant's Critical Philosophy for English Readers. By JOHN P. MAHAFFY, D.D., Fellow and Tutor of Trinity College, Dublin, &c., and JOHN BERNARD, B.D., Fellow of Trinity College, Dublin, &c. A new and completed Edition. 2 Vols. London: Macmillan & Co., 1889. Pp. xix., 389; xi., 239.

After first appearing as expounder and defender of Kant with a translation from K. Fischer, Prof. Mahaffy stood forth as an independent commentator in 1872. Two years later he broke off in the middle of the *Krit. d. r. V.*, though not without having accomplished the last part of the service he intended for the "English reader" in a translation of the *Prolegomena*. Now, after fifteen years, the outstanding parts of the *K. d. r. V.* ('Transcendental Dialectic' and 'Methodology') have, by the labour of a coadjutor, Mr. Bernard, been treated in such a way as to complete, on fairly equal scale, the exposition of Kant's fundamental work; and, Mr. Bernard having besides carried out a careful revision of Prof. Mahaffy's previous text, the English reader now gets in handier, as well as cheaper, form all or most of what was originally planned for him. Not quite all; for, while with minor changes or corrections Prof. Mahaffy's other chapters are reproduced, the long controversial one on "Kant's Æsthetic and the Sensual School" is wholly dropt out. And this is well; because, though the case for Experientialism has still a good deal more life in it than Prof Mahaffy seems now to imagine, it is certainly not in the midst of such a commentary as his on Kant that the best he might yet be able to urge against it would be usefully said. But, since he is of opinion that Associationism is a thing of the past, he might at least have omitted, from the remodelled Preface of the first volume, his grotesque reference to Prof. Bain—ill pointed even when first made in 1872. In reviving (also with little change), for vol. ii. of the new edition, his old preface to the translation of the *Prolegomena*, Prof. Mahaffy appears still not to know what Wirgman had done towards making the treatise accessible in English long before Richardson (see MIND iv. 422 n.). As to the whole contribution to English Kantian literature, though it cannot be said now to have the same importance that it would have had if completed at the time of its first projection, when students were so poorly provided with other help to the understanding of Kant, yet is it to be gratefully acknowledged. Prof. Mahaffy's exposition of the *Kritik*, so far as it went, had too many merits to be left in the awkward form of its first piecemeal publication; and, upon a first survey (more careful examination unavoidably deferred), Mr. Bernard appears well equipped for the serious task, whether of revision or of completion, that without him would not have been undertaken. [The first paragraph of the footnote on p. 23 of vol. i., reproduced from the earlier edition, must have been overlooked when Prof. Mahaffy set himself to consider what he would *not* reproduce of his old preface.]

Essays upon Heredity and kindred Biological Problems. By Dr. August Weisman, Professor in the University of Freiburg, in Breisgau. Authorised translation, edited by Edward B. Poulton, M.A., Selmar Schönland, Ph.D., and Arthur E. Shipley, M.A. Oxford: Clarendon Press, 1889. Pp. xii., 455.

One of a series of "Translations of Foreign Biological Memoirs," this volume, though addressed to the biologist, cannot be too urgently commended to the psychologist, upon whom also lies the shadow of Heredity. It is but recently that English readers have been made aware of Prof. Weisman's strenuous efforts for some years back to throw light upon the great mystery. Though anticipated to some extent in his main conception by Mr. F. Galton (see Mind i. 267), he has brought, during the last eight years, in a way of his own, the experience and insight of a working biologist to the gradual elaboration of a strictly scientific theory of heredity. The steps by which he has so far arrived at a result of some definiteness are represented by the eight papers here given in the order of their appearance, the author himself seconding the care of his translators by supplementary notes. For the present, the titles of the Essays (in order from 1881 to 1888) may indicate sufficiently the general scope of his progressive inquiry:—"The Duration of Life," "On Heredity," "Life and Death," "The Continuity of the Germ-plasm as the Foundation of a Theory of Heredity," "The Significance of Sexual Reproduction in the Theory of Natural Selection," "On the Number of Polar Bodies and their Significance in Heredity," "On the supposed Botanical Proof of the Transmission of Acquired Characters," "The supposed Transmission of Mutilations".

Socrates and Christ. A Study in the Philosophy of Religion. By R. M. Wenley, M.A., Lecturer on Mental and Moral Philosophy in Queen Margaret College, Glasgow; Examiner in Philosophy in the University of Glasgow. Edinburgh and London: W. Blackwood & Sons, 1889. Pp. vii., 274.

Viewing Christianity as prepared for at once by Jewish monotheism, Greek philosophy and the universal Roman polity, the author seeks to show the special relation of Socrates to the later philosophic movement of ancient thought and of this to the other lines of preparation. Although doctrines such as theism and the immortality of the soul are attributable to Socrates, it is a mistake, he thinks, to suppose that in them specifically he did much to prepare the way for Christianity. "Far rather he was the initiator of that movement towards the consideration of things spiritual which, in the end, produced thinkers who were conscious of a want that philosophy could not supply. The gradual development of this sense of helplessness, in its several phases, is the historical bridge between Greek philosophy and Christianity; it is also an essential cause of the difference between Socrates and Christ." Accordingly, having given some account of the "Antecedents of Socrates" and of his "Mission and Philosophy" (cc. ii.-iii.), the author proceeds to sketch the history of philosophy from Socrates to the eclectic schools that preceded Neo-Platonism (cc. iv.-vi.); going on, after a chapter on "The Importance of the Contact between Jew and Greek" (c. vii.), to treat of "Philo Judæus and his Significance," "The Jewish Ideal of God," "Judaism and Jesus" (cc. viii.-x.); and ending with a chapter on "Socrates and Christ" (c. xi.) that sums up his conclusions, as the introductory chapter of the same title (c. i.) states what he proposes to show. He finds that all the elements of Christianity were present in Philo's philosophy, but that the living force requisite to

mould them into organic unity was as yet absent; and that this could only be given by the personality of Christ. Socrates himself had not despaired of philosophy, nor had the thinkers who followed him, but every school failed in turn, and at length the ancient world, having become "sick of life," left "the abstract problem of man's individual freedom," so powerfully dealt with by the Stoics, for "that of concrete individual salvation," which it found in a transcendent God and a mediating personality. The importance of Socrates in the movement towards this consummation depends on his having been "in a sense the first of the Greeks who was not entirely Greek"; but at the same time his actual affinities with Christianity are not to be exaggerated; it was to the philosophical and not to the religious problem that he primarily addressed himself. "Whatever praise may be his, it must always be remembered that the end was not then. When, through what Socrates had *not* done, 'philosophy had grown sad by thinking beyond its depth,' there was necessity for a greater than he."

The Philosophy of Necessity: or Law in Mind as in Matter. By CHARLES BRAY. Third Edition, revised and abridged. London: Longmans, Green & Co., 1889. Pp. vii., 407.

A shortened reprint of a book which, first published in 1841, was recast in 1861. The social applications of the author's theory, made with reference to a state of facts now somewhat antiquated, are curtailed and thrown into an appendix. From the body of the work is omitted his phrenological analysis of mental faculties. A necessitarian and theist by intellectual conviction, Bray was a man of happy, sanguine temperament, who found himself altogether at home in a mundane realm of universal law, where he was able to gratify his benevolent impulses. He was not a very profound or learned thinker, but could write with force and directness.

Religion: A Dialogue, and other Essays. By ARTHUR SCHOPENHAUER. Selected and translated by T. B. SAUNDERS, M.A. London: Swan Sonnenschein & Co., 1889. Pp. ix., 117.

A well-executed translation of selected essays from Schopenhauer's *Parerga und Paralipomena*. The selections—"Religion: A Dialogue," "A Pew Words on Pantheism," "On Books and Reading," "On Physiognomy," "Psychological Observations," "The Christian System"—make a very readable little volume.

Kant's Doctrine of the "Thing-in-itself". A Thesis presented to the Philosophical Faculty of Yale University in connexion with his application for the degree of Doctor of Philosophy. By RIKIZO NAKASHIMA, A.B. (West Res. Coll.), B.D. (Yale Univ.). New Haven, Conn.: Prince, Lee & Akdins Co., 1889. Pp. 104.

This doctoral thesis, having a special interest as the work of a Japanese student, is divided into two parts—i. "Exposition" (pp. 5-68), ii. "Historical Explanation" (pp. 69-100). In part ii. the author seeks to explain how the doctrine of the thing-in-itself took shape in Kant's own mind. It was, he finds, an attempt to mediate between Idealism and Realism. The distinction between phenomenon and thing-in-itself he finds to be untenable, and Kant's attempt at mediation therefore unsuccessful.

The Beginnings of Ethics. By Rev. CARROLL CUTLER, D.D., formerly President of Western Reserve College. New York: A. C. Armstrong & Son, 1889. Pp. xiv., 324.

Substantially written and put in use, in the form of lectures and dictations, sixteen years ago, this book is now offered to a wider public than that of "College and professional students". The title is intended to indicate that it is genetic rather than constructive in method. "The chief aim is to show how Ethics arises psychologically and logically out of the nature of the soul and the necessary assumptions of its thought and action." Among those who have most influenced his thought the author mentions Butler, Aristotle and Dugald Stewart, "though the most central and shaping thought of all came from the late President Walker of Harvard College". The book is, in fact, a treatise on Ethics from a strictly intuitional point of view. Moral sense, or the feeling of obligation in the sensibility, is found to be "an original gift," matched in the intellectual sphere by an intuitive notion of duty, "which cannot be analysed, derived or defined". "Conscience," again, "as the term is here employed, cannot be logically defined." "The will" is to be treated as a special faculty, if we speak of faculties at all. If we do not speak of faculties, then the will, as Green says, is simply the man. It is the nature of the soul "to be a rational, ethical originator and director of its own acts; that is, to act with moral freedom".

A Plain Argument for God. By GEORGE STUART FULLERTON, Professor of Philosophy in the University of Pennsylvania. Philadelphia: J. B. Lippincott Company, 1889. Pp. 110.

The author's argument infers a divine mind from nature regarded not as an effect or as a means to an end, but as a manifestation related to God as the human body is related to the human mind. He distinguishes his doctrine both from Deism and Pantheism; going on, in conclusion, to argue that even if universal necessity, evolution and the eternity of matter should some day be proved, they could not affect the theistic argument set forth.

Les Sensations internes. Par H. BEAUNIS, Professeur de physiologie à la Faculté de médecine de Nancy, Directeur du laboratoire de psychologie physiologique à la Sorbonne. ('Bibliothèque scientifique internationale,' lxvii.) Paris: F. Alcan, 1889. Pp. 256.

Meaning by "internal sensations" all that are not referable to the common five heads of sense, Prof. Beaunis, in this latest French contribution to the 'International Scientific Library,' furnishes the proper complement to Bernstein's *Five Senses of Man* (MIND i. 435) in the same series. In point of psychological value, the complementary treatise is very decidedly in advance of its predecessor; and an English translation should be altogether welcome, if entrusted to a competent hand. The most distinctive feature of the book is the elaborate treatment (1) of the Muscular Sensations (pp. 61-146), (2) of Pain (pp. 169-236). As to the first, Prof. Beaunis is led on into discussions that lie considerably beyond the sphere of mere sensation; still it cannot be said that he forgets over these his proper task. He gives a more comprehensive account of the manifold research brought to bear on the 'muscular sense' than can easily be found elsewhere, and does the work of critical sifting the more effectively because he has made his own original contribution to the inquiry. On the vexed question of the sense of central innervation, he comes after carefully balanced survey of the evidence *pro* and *con* to the conclusion that, over and above (or prior to) all afferent sensation entailed by the muscular act, there is a real element of immediate conscious experience involved in the sending forth of impulse from within. His treatment of Pain in all its variety of modes

deserves even warmer acknowledgment: it is rarely indeed that a physiologist shows such psychological discernment as is displayed throughout these chapters. Especially noteworthy is his discussion of skin-pain in relation to the other kinds or modes of integumentary sensibility. Under the name "besoins," the 'appetites' receive careful handling; nor are the obscurer phenomena of "sense of orientation," "magnetic sense," "meteorological sense," and the like, passed over. More reference, however, might have been expected to the sensory function of the semicircular canals.

L. Automatisme psychologique. Par PIERRE JANET, Professeur agrégé de philosophie au lycée du Havre. Paris: F. Alcan, 1889. Pp. 496.

This is a specially noteworthy book. It is the work of one of the most active members of the new French school, which seeks to turn the phenomena of hypnotism to general psychological account. By help of two Havre physicians, Drs. Gibert and Powilewicz, Prof. Pierre Janet has been able to conduct an elaborate system of hypnotic experiments upon a number of hysterical or other patients, but more especially four women with variously impaired sensation. His observations are here all brought to bear upon the question of human automatism, discussed heretofore upon speculative rather than experimental grounds, at least from the side to which the author ranges himself. For him, "automatism"—meaning "human activity in its simplest, most rudimentary forms"—is always so essentially a psychological fact that, in the end, he does not hesitate to say that, while the two sciences of physiology and psychology are inter-related as no two other (because dealing with the same phenomena only in two different ways), it is from psychology, at least for the moment, that the physiologist is driven to take the cue. We shall hope to return to the work and consider in detail whether or how far the author is able to establish his general position; following him also through the varied study of the elementary forms of sensation and of consciousness which is involved in his theory of the elementary forms of activity. The treatise falls into two main parts. The first, "Total Automatism," deals with catalepsy and somnambulism, in respect more especially of the phenomena of consciousness, of forgetfulness on waking, of alternating memory, and of suggestion, as manifested in the two states. The second part, "Partial Automatism," is occupied with partial catalepsy, post-hypnotic suggestions, "systematised anæsthesias" (*i.e.*, suggested losses of particular sensations), plural consciousness; concluding with two chapters on the different forms of psychological "disaggregation" (spiritism, thought-reading, impulsive madness, fixed ideas, hallucinations, &c.), and on moral force and weakness.

La Philosophie de Gassendi. Par P. FELIX THOMAS, Docteur ès Lettres, Professeur au Lycée de Brest. Paris: F. Alcan, 1889. Pp. 320.

This is an excellent piece of work. Gassendi, though he had a fair share of monographic treatment thirty or forty years ago, has for a long time received scant justice from general historians of philosophy. Lange only, working with special view over the general field, has not failed to see that no philosopher of the seventeenth century stands in more intimate relation to some of the most characteristic thought of the nineteenth. It is with a like persuasion of Gassendi's claims to be considered as a thinker of more than passing import that the author of the present volume has set to work. Professing to expound and hardly at all to discuss, he yet is able throughout, by suggestive touches in text or footnotes, to invest with living interest his extracts from the pages of

the most learned and open-minded of churchmen. The inaccessibility of Gassendi's folios and the diffuseness of their erudite method go far to account for the comparative neglect into which they have fallen. All the more thanks are due to a writer like Prof. P. F. Thomas for the labour he has undergone in sifting out and for the patient skill he displays in presenting. We get from him here exactly such information regarding the matter and manner of Gassendi's properly philosophical thought as was greatly wanted, whether for immediate understanding or for convenient reference. If there had only, in addition to the clear introductory statement of the occasion and import of the different philosophical writings, been given some consecutive account of Gassendi's life and wide-spreading relations with his contemporaries, the monograph might have been pronounced altogether satisfactory and likely to be definitive. No one can have worked among the thinkers of the seventeenth century without feeling how provokingly inadequate, when not quite misleading, are the references of the common books to the rival whom Descartes has been allowed far too much to overshadow. It is much to be desired that Prof. Thomas may have and may use the opportunity of completing the service he has done to his author. One thing may be noted as clear from the exposition—that Lange was not justified in asserting that Gassendi's cosmological speculations left him with little concern for psychology: in no department of philosophical inquiry is his record more remarkable than in this. [There is a slip at p. 11, as to Gassendi's appreciation of Newton, who was still only a boy of thirteen at the time of the philosopher's death. Newton's high estimate of Gassendi, reported by Voltaire, is given on p. 56.]

La Philosophie dans ses Rapports avec les Sciences et la Religion. Par J. Barthélemy-Saint Hilaire, Membre de l'Institut, Sénateur. Paris: F. Alcan, 1889. Pp. 280.

The author's point of view remains unchanged since the publication, in 1879, of his Introduction to Aristotle's *Metaphysics* (see Mind iv. 446), in which volume he had already defended the claims of philosophy against science and theology, and had affirmed Cartesianism as his metaphysical doctrine. "Cartesian spiritualism," he now repeats (p. 96), is the truth itself." It was this doctrine that Cousin had the merit of restoring to French philosophy; for his "eclecticism" had no permanent value. The method of philosophy is not eclectic, but is reflection by consciousness on itself. This method, though it was used systematically by the ancients, and in particular by Aristotle, still at the beginning of the modern period needed definite formulation. Descartes formulated it with such clearness that henceforth it became an inalienable possession of the human mind. The sciences, though now temporarily opposed to philosophy (and in their hostility to "free metaphysics" at one with theology) cannot remain permanently aloof from it; for on the one hand the prolonged analyses of special science call for a philosophical synthesis, and on the other hand it is from metaphysics that scientific principles derive their certitude. The reconciliation of philosophy with religion presents greater difficulties than its reconciliation with science, since both claim supremacy over the whole mind; but even here reconciliation is not hopeless. It may be found in a "reciprocal toleration" such as existed between ancient religion and philosophy. Philosophy must, by its very nature, place reason above faith; but now that its freedom is again secure, as it was in antiquity, it can recognise the beneficence of religion as a moral agency, and the superiority of Christianity, and more especially of Catholicism, to all other religions.

Theology and philosophy seek the same end by different ways, and are in agreement as regards the essential truths of "spiritualism". This being so, they can afford to leave each other undisturbed in their respective spheres of activity: philosophy recognising that it is essentially "individualistic," and exercising tolerance by refraining from attacks on the common faith; theology on its part recognising the independence of reason, and not seeking to transgress the limits that have been imposed upon it in the interests of civil life.

Le Procès de Socrate. Examen Critique des Thèses Socratiques par G. Sorel. Paris: F. Alcan, 1889. Pp. 396.

The result of this critical examination of the Socratic theses is that, although Socrates is not to be classed with the Sophists, his opponents were quite right in regarding his teaching as hostile to the old Athenian constitution. They failed to restore the old ideas, but we ought to judge them with the more impartiality that we see more clearly than they did the disastrous consequences of the new doctrines. "The State transformed into a Church, public force put at the disposition of the sects, such was the ideal of the Socratics." Under the government of chiefs marked out by their scientific competence—a conception which, though exaggerated by Plato, was in its essence Socratic—the citizen would have been allowed no liberty but "the liberty of good," as "good" was conceived by the chiefs. The intellectual tolerance characteristic of Greek life would have disappeared. Nor were the tendencies of the Socratic school, any more than those of the Sophistic schools, without influence in bringing about the gradual demoralisation by which the period was marked. The contempt of the school for the heroic ideals of the older poets, as well as for the institutions of Athenian democracy, is notorious. At the same time they were the recipients of Asiatic influences, religious and social, made a point of admiring Sparta, and sympathised with the oligarchical factions of Athens. The accusation of Socrates was thus not founded on any misunderstanding, since it was part of an attempt to suppress political innovations and to restore the old ethical spirit. For a true—as well as for the most favourable—representation of Socrates, the author thinks, we must go to Xenophon, and not to Plato, who disfigured his master's thought and exaggerated the anti-Hellenic tendencies of the Socratic school. The testimony of Aristophanes is not to be neglected, for his attack on Socrates had a serious purpose, and his representations are confirmed from other sources. On the whole, the book is an interesting and suggestive presentation of 'the other side' of the case. The writer intends application to be made of his ideas to modern times, but in what direction it is not easy to infer. His incidental expressions of opinion seem occasionally a little inconsequent.

L'Art au point de vue sociologique. Par M. Guyau. Paris: F. Alcan, 1889. Pp. xlvii., 387; xvi., 306.

What Guyau has sought to develop in the first of his posthumous works now published is "the properly sociological point of view, which places the essence of art, like that of morality and religion, in a development of the social instinct". M. Fouillée contributes an introduction of 40 pages, in which he gives an outline of the argument. For the present, a general view of the subjects discussed may be got from the titles of the chapters, which are:—i. "La solidarité sociale, principe de l'émotion esthétique la plus complexe"; ii. "Le génie, comme puissance de sociabilité et création d'un nouveau milieu

social" ; iii. "De la sympathie et de la sociabilité dans la critique" ; iv. "L'expression de la vie individuelle et sociale dans l'art" ; v. "Le réalisme—Le trivialisme et les moyens d'y échapper" ; vi. "Le roman psychologique et sociologique" ; vii.-ix. "L'introduction des idées philosophiques et sociales dans la poésie" ; x. "Le style, comme moyen d'expression et instrument de sympathie" ; xi. "La littérature des décadents et des déséquilibrés : son caractère généralement insociable. Rôle moral et social de l'art."

L'Avenir de la Métaphysique fondée sur l'Expérience. Par ALFRED FOUILLÉE. Paris : F. Alcan, 1889. Pp. xvi., 306.

"M. Fouillée a montré dans un précédent ouvrage la crise que traverse la morale ; la métaphysique en subit une semblable et non moins digne d'attention. Il existe à notre époque, chez beaucoup d'esprits, une tendance à dépouiller la métaphysique de toute valeur comme savoir, pour en faire, soit une poésie supérieure, soit une simple conséquence de la morale, soit une religion individuelle où les mythes sont remplacés par des symboles abstraits. M. Fouillée montre que la métaphysique est impérissable, parce qu'elle est le complément nécessaire de la science positive et de la morale positive ; mais, selon lui, la métaphysique doit être desormais une speculation fondée sur *l'expérience*, et cette conception nouvelle de la métaphysique est celle qui prévaut de plus en plus dans les divers pays. En déterminant les rapports exacts de la métaphysique avec la science, avec la morale, avec la religion—problèmes d'importance capitale—l'auteur se tient à égale distance des positivistes, des criticistes et des dogmatistes. S'efforcer, par induction, de reconstruire l'univers dans ses traits essentiels, en prenant pour règle que cette reconstruction soit d'accord tout ensemble avec les résultats les plus généraux des sciences objectives et avec les données les plus primordiales de la conscience, ce ne sera plus construire des 'palais d'idées' dans la région mouvante des nuages."

Croyance et Réalité. Par LIONEL DAURIAC, Professeur de philosophie à la Faculté des lettres de Montpellier. Paris : F. Alcan, 1889. Pp. xxxvii., 338.

In these essays (part of which have appeared in the *Critique Philosophique* between 1883 and 1888) the author, who is a disciple of M. Renouvier (to whom the book is dedicated), sets forth the principles of the "criticist" philosophy with some of their applications. An interesting introduction (pp. i.-xxxvii.) gives a sketch of the stages of development of his thought. The book itself begins with chapters on the theory of belief, in relation especially to free-will (pp. 1-98), goes on to discuss the question of reality—whether to be found in "substance" or "phenomenon" (pp. 99-258)—and ends with three well-written essays entitled "Genesis of Metaphysics," "Art and Philosophy," "The two Moralities" (pp. 259-336). The author's conclusions are for phenomenism, for the Kantian doctrine of duty, and for indeterminism as inseparably joined with this.

J. PUTSAGE. *Nécessité Sociale.* Bruxelles : Imprimerie Veuve Monnom, 1889. Pp. 18.

The "social necessity" referred to is the necessity of a social transformation in accordance with the principles of the author's work, *Etudes de Science réelle* (see MIND No. 54, p. 293).

HERBERT SPENCER. *L'Individuo e lo Stato.* Traduzione di SOFIA FORTINI-SANTARELLI. Con Prefazione di GIACOMO BARZELLOTTI. Città di Castello: S. Lapi, 1886. Pp. ciii., 163.

In introducing this translation of *The Man versus the State* to Italian readers Prof. Barzellotti has sought, not indeed to "confute" Mr. Spencer's Individualism, but to "temper" it by some historical considerations. He traces, in his Preface, the various currents of individualistic and socialistic speculation that have influenced Europe during the present century, making many interesting remarks by the way, and showing how the various political ideals in turn predominant have appealed to the needs of each time and to each national character. The conclusion indicated is that the principles of individual "autonomy" and of State-control are not mutually exclusive but tend to reconciliation. The range to be assigned to each is not wholly a question of science. That is to say, it cannot be fixed once for all by any theoretical deduction, but can only be determined by the practical art of government in relation to the special circumstances. This conception Prof. Barzellotti finds to be that which is, on the whole, predominant both in the practical politics and in the political thinking of Italy and of England: Mill's *Liberty*, which is far from being wholly unfavourable to State-interference, best representing the spirit of English political life; and a certain moderate conception of the office of government, opposed alike to the excesses of French centralisation and to the German "pedagogic" view of the State, yet not going to the extreme of *laissez faire*, having become traditional in Italy.

Psicologia del Comico. Memoria letta all' Accademia di Scienze Morali e Politiche della Società Reale di Napoli dal Socio Ordinario FILIPPO MASCI. Napoli: Tipografia della Regia Università, 1889. Pp. 80.

The comic, in the author's view, is a phenomenon of intellectual contrast. Further, the contrast must be a "descending contrast"; the reality must appear inferior to our idea of it. The contrasted representations tending to combine and being hindered, there is a phenomenon of "alternation" producing an effect resembling brilliancy or pungency of sensation. The descending intellectual contrast and the alternation are accompanied by the feelings of "superiority" and of "free motion," the first of which was noted by Hobbes as the cause of laughter, and the second of which is due to a "reaction from (false or artificial) seriousness".

GIUSEPPE CIMBALI. *Nicola Spedalieri, Pubblicista del Secolo XVIII.* Città di Castello: Tipografia dello Stab. S. Lapi, 1888. Pp. xc., 368; 296.

The author has devoted much enthusiastic labour to reviving the memory of an almost forgotten Italian publicist, Nicola Spedalieri, who has already attracted some attention from Mamiani and others as a liberal Catholic of the 18th century. The result of his industry now appears in two volumes, divided, after an introduction on the 18th century ("The Century of Spedalieri," pp. xxi.-xc.) into three parts—i. "Life" (vol. i., pp. 3-192), ii. "The Apologies for Christianity" (vol. i., pp. 195-368), iii. "The *Rights of Man*" (vol. ii.). Spedalieri's political work is based on the contract-theory. His chief apologetic work is a long *Confutation of Gibbon.* The author has found a reference to this by the great historian, which he quotes (i. 301, note). Referring to the provision by the Italian translator of the *Decline and Fall* of "an antidote against the poison of his original" in the form of letters from

an anonymous divine to his friends, two English students at Rome, Gibbon proceeds:—"The critical essay at the end of the third volume was furnished by the Abbate Nicola Spedalieri, whose zeal has gradually swelled to a more solid confutation in two quarto volumes. Shall I be excused for not having read them?"

Le Opere Latine di Giordano Bruno esposte e confrontate con le Italiane. Da Felice Tocco, Professore di Storia della Filosofia. Firenze: Successori Le Monnier, 1889. Pp. vi., 420.

The author classifies Bruno's Latin works into "Lullian," "Mnemonic," "Expository and Critical," and "Constructive". These he studies in the first four parts of his book; most space, as is right, being given to the last group, consisting of the *Summa Terminorum Metaphysicorum* and the three Latin poems, *De Minimo*, *De Monade* and *De Immenso* (pp. 125-326). Finally, in a fifth part (pp. 327-416), he expounds Bruno's philosophy as a whole, tracing it to its sources, and comparing the Latin with the Italian works. He seeks to show a development of the philosopher's thought, but in the opposite direction to that which has been contended for by Carrière. In his view Bruno begins with a doctrine of emanation, implying "transcendence," which he derived from the Neo-Platonists. This is expounded in the *De Umbris Idearum*. Afterwards it was transformed into a monism like that of the pre-Socratics, in which the Eleatic doctrine of the One was combined with the Heraclitean doctrine of Evolution. This finds its expression in the Italian dialogues. Finally Bruno developed a doctrine of atomism, or rather monadism (since the atoms are regarded as animated), which is expounded, though not with perfect consistency, in the *De Minimo*. His theory of knowledge went through corresponding changes. First he held the Neo-Platonist doctrine of the attainment of truth by "ecstasy," then a doctrine, resembling Hegel's, of the identity of being with thought and of thought as a dialectical process, from which he was going on to an empiricist doctrine of sense as the test of truth. The author's view is carefully worked out, and there is perhaps more to be said for it than for the opinion that Bruno's later works give evidence of a transition from pantheism to theism. Prof. Tocco has to admit, however, that Bruno himself was unconscious of the change; and to make out his case he has to ignore part of Bruno's thought at each stage. Only in one point, *viz.*, that there is a growing opposition to the Platonist doctrine of "transcendence," can the case be regarded as satisfactorily made out. Here Bruno himself was perfectly conscious of the opposition, and it may be contended that the doctrine of "immanence" was really present to him (since it finds expression in his earliest extant writing) from the beginning of his philosophical activity, but that he afterwards saw, as he did not at first, the necessity of opposing the Platonic phraseology if his own doctrine was to be maintained. Prof. Tocco all through quotes copiously (in footnotes) from Bruno himself, and, in his last part, illustrates his views by appropriate citations from the ancient thinkers from whom Bruno drew. (The way in which references have to be given to the Latin works reminds us that a complete and uniform edition of them is still a desideratum.)

Lotze's Philosophie. Von Eduard von Hartmann. Leipzig: W. Friedrich, 1888. Pp. xii., 183.

An estimate of the philosophical work of Lotze. In the author's view, Lotze's work is most important in theory of knowledge and in the

branches of philosophy related to it; for although he rarely arrives at determinate results, his searching treatment of the most difficult problems of philosophy has stimulated discussion and has been specially meritorious in an unmetaphysical time. He may be regarded as "the epistemologist of the speculative theism of the nineteenth century". In his attempt at a positive reconciliation of the speculative view of the world with the view of natural science, as in his theistic doctrine itself, he has, however, been by no means successful. His religious doctrine, in particular, is a falling back on the "optimistic theism" of the last century, and entirely lacks the pessimistic element that is an essential part of a true philosophy of Christianity.

Sprache und Religion. Von Lic. Dr. Georg Runze, Privatdocent an der Universität zu Berlin. Berlin: R. Gaertner (Hermann Heyfelder), 1889. Pp. xvi., 235.

Accepting the general doctrine of the inseparability of thought and language—of which he regards Prof. Max Müller's *Science of Thought* as the most perfect expression—the author proceeds to ask, What is the influence of this doctrine on the theories of knowledge and belief, especially religious belief? With a view to the decision of this question, he first illustrates the influence of language on Aryan mythology—here again accepting from Prof. Max Müller the view that myths are essentially determined by misunderstandings of the meanings of words. He next applies the linguistic theory of mythology to the Bible; here finding that both in the Old and New Testaments there are distinct "mythological" elements traceable to the influence of language. This conclusion, he then argues, in no way decides the question as to the truth of those doctrines that contain such "mythological" elements. What has been shown so far is merely the influence of language on the origin and development of religion. The truth of religious thought itself remains a problem—to be solved in the light of the conclusions reached. Now linguistic science, in making clear the manifold determination of thought by words, appears at first to result in a kind of "theoretical scepticism". When, however, the self-determining power of the will is considered, the result becomes a "radical Criticism". For while language explains the mythological element in religious thought, it does not explain the moral will. On the contrary, the moral will places a limit to the influence of words on thought. Problems that can be solved neither empirically nor logically—*i.e.*, by "linguistic consequence"—can be solved by a decision of "free-will" made under ethical motives. The ultimate criterion in theory of knowledge being, accordingly, ethical, it is the duty of the thinker, even within the limits of science, to decide in accordance with the interests of Church and State. Since there is no theoretically absolute rule, apart from "the ethical will-moment," for criticising the documents of Christianity, this moment must here furnish the ground of the decision. The results of linguistic science in its application to the origin and development of religion thus turn out to be altogether favourable to theology.

Vom Ursprung sittlicher Erkenntniss. Von Franz Brentano. Leipzig: Duncker & Humblot, 1889. Pp. xii., 122.

The author aims at showing, from the empirical point of view, that while there is no "natural," in the sense of "innate," moral or juridical law, there is nevertheless an ethical law that is natural in the sense that it is independent of all social authority. The moral will, he finds, must

have an internal superiority over the immoral will, such as the logical has over the illogical judgment. "Belief in this superiority is an ethical motive; knowledge of this superiority the right ethical motive, the sanction, which gives security and validity to the ethical law." To promote "good" in the most general sense is the end of life. Positive law and morality, to be really obligatory, must agree with the rules made known by reason as duties of love towards the highest practical good. Prof. Brentano's essay—read Jan. 23 before the Juristic Society of Vienna—is now provided with abundant notes (pp. 47-108) and supplemented (in relation to special points discussed) by a review reprinted from the *Wiener Zeitung* (13th and 14th Nov., 1883) of "Miklosich über subjektlose Sätze" (pp. 112-122).

Montaigne als Vertreter des Relativismus in der Moral. Inaugural-Dissertation zur Erlangung der Doktorwürde an der philosophischen Fakultät zu Jena. Von IVAN GEORGOV. Leipzig: Gustav Fock, 1889. Pp. 48.

The author—a Bulgarian by birth—gives in the first part of his doctoral thesis an effective presentation of the ethical "relativism" of Montaigne, in which he finds implicit the modern conception of the social origin of conscience. In his second (critical) part he urges against the "relativistic" position some considerations from the Kantian point of view.

Neue Grundlegung der Psychologie und Logik. Von GUSTAV TEICHMÜLLER. Herausgegeben von J. OHSE, Privatdocent an der Universität Dorpat. Breslau: Wilhelm Koebner, 1889. Pp. xii., 348.

This posthumous work was projected by Prof. Teichmüller as part of the foundation of the "Philosophy of Christianity" announced in his *Religionsphilosophie* (see MIND xii. 306). It wanted only the author's final revision, and has now been edited with great care and fidelity. The matter is distributed (according to the author's scheme) into two parts:—i. "New Foundation of Psychology" (pp. 1-236), ii. "New Foundation of Logic" (pp. 237-340). The leading ideas are those indicated already in the *Religionsphilosophie*, *viz.*, the distinction of "consciousness" from the "cognitive function," and the conception of thought as essentially a "system of co-ordinates".

Die Menschenseele. Ein Beitrag zur Analyse und Erziehung des Menschen. Von L. CARNIO. Wien: Carl Konegen, 1889. Pp. 118.

An argument for belief in the existence of an immaterial soul, on the ground that such belief is suggested by an instinct or "feeling-potency," "the universal God *in us*, which teaches us better than the short-sighted understanding what is profitable for the wide aims of humanity".

Der angebliche Heraklitismus des Skeptikers Ainesidemos. Von EUGEN PAPPENHEIM. Berlin: R. Gaertner (Hermann Heyfelder), 1889. Pp. 67.

According to the author, "The Heracliteanism of Ænesidemus" is erroneously inferred from what is reported by Sextus Empiricus. Ænesidemus was not in reality a Heraclitean, nor is he described as such by Sextus, but certain Heracliteans of the time "Ænesidemised," and Sextus controverted their views, defending the Pyrrhonist against the Heraclitean interpretation of Scepticism.

Ueber Phantasie-Vorstellungen. Von Anton Ölzblt-Newin. Graz: Leuschner & Lubensky, 1889. Pp. 130.

An accumulation of facts from all sources—equally from literature, from scientific monographs and from introspection—on the images of the "phantasy" as distinguished from those of memory. For the classification of the facts the distinction between "generative" and "constructive" imagination is chiefly made use of. There is a chapter on the physical conditions of the spontaneous production of imagery, and one on the phantasy of animals.

Einleitung in die englische Philosophie unserer Zeit. Von Dr. Harald Hœffding, Professor an der Universität in Copenhagen. Autorisirte Uebersetzung von Dr. H. Kurella. Leipzig: Theodor Thomas, 1889. Pp. vii., 249.

Dr. Kurella, who has already translated an interesting psychological work from the Danish (see Mind xiii. 304), here offers to German readers a translation of Prof. Höffding's *Introduction to contemporary English Philosophy.* In a short preface he remarks on the merits of English Association-psychology and their insufficient recognition in Germany; mentioning that for clinical observation he himself "owes more to the Mills, Bain and Spencer than to many native German doctrines of cerebral physiology". The modern cerebral physiology of cells and fibres is, he points out, for the most part unconsciously to its authors, based on Association-psychology (p. v.). Prof. Höffding—who is already known to readers of Mind—treats of English philosophy down to 1874 (the date of the first appearance of his work); adding some reference to recent developments in a "Conclusion" (pp. 239-249) re-written in 1887. His chapters are—i. "General Characteristics" (pp. 1-23), ii. "Pure Empiricism" (J. S. Mill and Prof. Bain; pp. 24-112), iii. "The Critical School in England" (Whewell, Hamilton, Mansel; pp. 113-149), iv. "The Philosophy of Evolution" (Mr. H. Spencer; pp. 150-238). The work is, on the whole, appreciative. As was pointed out by Mr. Sully (Mind xii. 606), the author is not exclusively devoted to English thinkers. He regards Experientialism as in need of development under the influence of German thought, and refers in terms of praise to Green's *Prolegomena to Ethics;* but, in concluding, the first point on which he insists is the coherent development of English Experientialism as contrasted with the changing systems of Continental philosophy.

John Stuart Mill. Ein Nachruf von Theodor Gomperz. Wien: C. Konegen, 1889. Pp. 49.

Two essays published by the author soon after Mill's death are here reprinted in a revised form with the addition of notes (pp. 33-49). They are of much interest, the author having been in personal relations with Mill for over twenty years. Passages are given, partly in the original and partly in German translation, from Mill's letters to Prof. Gomperz during that period.

Der Weg zum Glück. Auf Grund einer Darstellung der Entwickelungslehre Herbert Spencers. Von Albert Roder. Leipzig: O. Spamer, 1888. Pp. viii., 135.

A clearly written exposition of Mr. Spencer's philosophy. "The way to happiness," in the author's view, is scientific knowledge—but scientific knowledge organised into a philosophical system. Holding that Mr. Spencer's systematisation of science is of more value than any

other for determining the means to the ethical end, he offers this little book not as an adequate account of the Spencerian system, but as an introduction that may promote its study.

System der Philosophie. Von WILHELM WUNDT. Leipzig: W. Engelmann, 1889. Pp. x., 669.

This important work will, it is hoped, receive notice in the next number of MIND. Though Prof. Wundt's "System" has only been set down in its present form within the latest years, its fundamental views date from more than twenty years since, having first begun to shape themselves on occasion of the appearance of the small work, *Die physikalischen Axiome und ihre Beziehung zum Causalprincip* (1866). A little later the author composed a "Sketch of Theory of Knowledge and Metaphysics," but delayed its publication till he had gone more deeply into the special branches of philosophical science. The results of this occupation are contained in his *Physiologische Psychologie*, *Logik* and *Ethik*. Philosophy, in his view, must henceforth be a system of knowledge based on the special sciences. It is still to be called (or at least its central part is to be called) Metaphysics, because its general aim is that which was always the aim of metaphysics, *viz.*, the organisation of knowledge into a consistent whole. The book falls into an Introduction and six Sections:—(1) Thought, (2) Knowledge, (3) The Concepts of Understanding, (4) The Transcendent Ideas, (5) Chief Points of Philosophy of Nature, (6) Outlines of Philosophy of Spirit.

Beiträge zur Experimentellen Psychologie. Von HUGO MÜNSTERBERG, Dr. phil. et med., Privatdocent der Philosophie an der Universität Freiburg. Heft i. Freiburg i. B.: J. C. B. Mohr (Paul Siebeck), 1889. Pp. xii., 188.

This is the beginning of a very remarkable enterprise. The author of *Die Willenshandlung* (MIND No. 51, p. 463), and of *Der Ursprung der Sittlichkeit* (No. 54, p. 298), the former, at least, of which ought before now to have received the detailed examination due to its great freshness and vigour of treatment, here engages in a task which does not more bespeak his exceptional courage than promise uncommon advantage to scientific psychology. Having instituted a psychological laboratory at Freiburg, and started a wide-reaching scheme of experimental research, he means to keep up a serial publication of results, and hopes to produce yearly as many as three parts of some ten sheets each (matter for four such parts being already accumulated beforehand). Since the investigations are not only laid out upon a careful plan of his own, but are also carried out by himself (in conjunction with the necessary assistants), while the critical appreciation of the results and the whole writing-out are his exclusively, it is apparent at once to what a herculean labour he stands committed. One can but wish him health and strength—and the merited encouragement—to go on as he has now begun. In the present first part, after preliminary explanations, and a general treatment of the relation between consciousness and brain (pp. 1-63), defining his consistently psychophysical attitude, he gives detailed and reasoned account of two separate researches directed on the question of Voluntary and Involuntary Combination of Ideas (*Vorstellungsverbindung*). He gets what he holds to be clear experimental refutation of Prof. Wundt's theory of Apperception, which has drawn so much attention of late years as an allowance, by the great psychophysical pioneer, that there is a range of mental activity lying beyond the province of physiological psychology—or rather that all proper

mental activity so lies. Prof. Bain, in MIND No. 46, sought from his own Associationist point of view to reclaim against such allowance, and the present writer has but recently noticed that in the third edition of the *Physiologische Psychologie* (published in 1887), ii. 389 n., Prof. Wundt complains of having been seriously misunderstood and misrepresented by his critic in these pages. It is but due to a thinker of his mark that the matter should not be left there. An effort will accordingly be made, on returning to 'Critical Notice' of Dr. Münsterberg's most important research, to do justice at the same time to that doctrine of Prof. Wundt's which the research so powerfully assails. To say thus much of Dr. Münsterberg's work gives, however, even preliminarily, no notion of its value and interest as a contribution to psychology, in regard to quite a number of questions now to the front. Every forward worker should make haste to peruse it; hardly will any such reader fail to look out for the parts that are to come.

RECEIVED also:—

T. Fowler, *Inductive Logic*, 5th ed., Oxford, Clarendon Press, pp. xxv., 364.
G. v. Giżycki, S. Coit, *A Student's Manual of Ethical Philosophy*, Lond., Swan Sonnenschein, pp. viii., 304.
S. E. Jarvis, *Rosmini, a Christian Philosopher, &c.*, 2nd ed., St. William's Press, Market Weighton, pp. 86.
The Sacrifice of Education to Examination (ed. A. Herbert), Lond., Williams & Norgate, pp. xxxii., 204.
E. D. Bunsen, *Islam or True Christianity*, Lond., Trübner, pp. xii., 176.
H. D. Macleod, *The Theory of Credit*, vol. i., Lond., Longmans, pp. xii., 336.
T. T. Lynch, *Gatherings from Notes of Discourses*, 2nd Series, Lond., J. Clarke, pp. viii., 220.
T. Clarke, *The Fate of the Dead*, Lond., F. Norgate, pp. xv., 196.
P. Carus, *Fundamental Problems*, Chicago, *Open Court*, pp. 267.
Dr. O'Mahony, *Des Jugements qu'on doit appeler Synthétiques à priori*, Dublin, M. H. Gill, pp. 16.
L. Tolstoi, *Ueber das Leben* (übers. S. Behr), Leipzig, Duncker u. Humblot, pp. 264.
G. H. Störring, *J. S. Mill's Theorie über den psychol. Ursprung des Vulgärglaubens an die Aussenwelt*, Halle a. S., pp. 40.
K. Fischer, *Gottfried Wilhelm Leibniz*, 3te Aufl., Heidelberg, C. Winter, pp. xix., 622.
E. Adickes, Kant's *Kritik der reinen Vernunft*, mit Einleitung u. Anmerkungen, Berlin, Mayer u. Müller, pp. xxvii., 723.
R. Seydel, *Der Schlüssel zum objectiven Erkennen*, Halle a. S., C. E. M. Pfeffer (R. Stricker), pp. 116.

NOTICE will follow.

VII.—FOREIGN PERIODICALS.

The Journal of Speculative Philosophy.—Vol. xxi., No. 3. D. J. Snider—A Study of the Iliad (Bk. vi.). G. Garrigues—Shakespeare's Sonnets. W. Boulting—A Universal Telos the Presupposition of all Inquiry. [An argument to the effect that "on the ground of merely intellectual data we are compelled to posit a Reason from which our phenomenal world of being and becoming, of the real and the valid, of the transient event and the timeless law, derives itself".] Leibniz—Critique of Locke (tr.). Bonaventura—The Soul's Progress in God (tr.). Notes and Discussions, &c.

American Journal of Psychology.—Vol. ii., No. 3. W. Noyes—Paranoia. A Study of the Evolution of Systematised Delusions of Grandeur. [Continuation, from Vol. i., No. 3, of an account of the development of the mental disease of a patient confined in the Bloomingdale Asylum. Originally an artist of irregular power, he continues to throw off sketches, which are here reproduced both as illustrations of his artistic skill and as indicating the changing phases of his disease.] C. F. Hodge—Some Effects of electrically stimulating Ganglion Cells. E. C. Sanford—Personal Equation (iii.). W. H. Burnham—Memory, historically and experimentally considered (iii.). [On "pseudo-reminiscences or the phenomena of paramnesia". These are arranged, according to a modification of Kraepelin's terminology, under the heads of (1) "simple paramnesia," in which "the images of the imagination, as they spontaneously arise in consciousness, appear as memories," (2) "identifying paramnesia," or ordinary "double memory," in which actual events are taken to have been experienced before, and (3) "suggested or associating paramnesia," in which "an actual impression suggests an illusion or an hallucination of memory".] Psychological Literature (The Nervous System; Experimental; Abnormal; Miscellaneous). Notes.

Revue Philosophique.—An. xiv., No. 7. F. Evellin—De la possibilité d'une méthode dans la science du réel. [Philosophical method requires some fact to start with that is beyond doubt. This is found in the existence of the phenomenon. The existence of the phenomenon implies the plurality of being. In the order of existence being is first, in the order of knowledge the phenomenon. Accordingly, if we begin with a definition of being, we may arrive at "monism," or the doctrine of its absolute unity; but we can never succeed in effecting a transition from this to the phenomenon. If, on the other hand, we begin with the phenomenon, then we see that "for the phenomenon to be possible it is necessary that being in a sense should become multiple, and that at its surface at least division should appear". This points to a doctrine of "polydynamism" as opposed to monism; for the meaning of "being" is "autonomous action, action in itself".] C. Féré—L'énergie et la vitesse des mouvements volontaires. [Among the results arrived at (by experiment on (1) hysterical, (2) epileptic, (3) normal 'subjects') the following may be selected: 'Reaction-time' diminishes or increases as energy of muscular effort increases or diminishes; Duration of reaction-time varies as duration of reduction of oxyhæmoglobin, that is to say, intellectual activity is in relation with activity of nutrition; Rapidity and abundance of the "nervous avalanche" are greater as the ways of discharge it can take are less numerous; All conditions that exaggerate intensity of nutritive exchanges develop energy and rapidity of movements along

with physical activity in general.] F. Paulhan—Les formes les plus élevées de l'abstraction (fin). [The essential phenomenon in abstraction is "orientation of the mind". This "orientation" consists in a disposition of the psychical elements such that certain excitations tend to determine certain acts. The idea is "a sort of weak excitation of a system of various psycho-physiological elements". "Our general ideas, our abstract ideas, answer to what there is in common in an indefinite number of perceptions and acts." The mind consists of elements grouped into "organico-psychical systems," and each of these systems is an "abstract tendency".] Analyses, &c. (H. M. Drummond, *Les lois de la nature dans le monde spirituel* (tr.), &c.). Société de Psychologie physiologique (Congrès international de psychologie physiologique. Comité d'organisation et de patronage: Programme du Congrès. Society for Psychical Research). No. 8. G. Tarde—Catégories logiques et institutions sociales (i.). [The logical and teleological categories for the individual mind are: Matter-Force, Space-Time, Pleasure and Pain; for the social mind: Divinity, Language, Good and Evil. The notion of divinity plays the same part in social intelligence as the notion of matter and force in individual intelligence, and "deism" is as essential to the former as "realism" to the latter. Language may be called "the social space of ideas," but, more exactly, it corresponds to both space and time in the individual mind; the verb standing for time and the substantive for space. There is a conflict, not yet resolved, between individual and social logic; the former, under the name of science, at present striving to subject the latter to itself.] L. Dauriac—La doctrine biologique de M. Delboeuf. [An exposition and criticism of Prof. Delboeuf's *La Matière brute et la Matière vivante.*] Notes et documents (A. Binet—Contribution à l'étude de la douleur chez les hystériques. L. Belugou—Une nouvelle Laura Bridgman). Analyses, &c. Rev. des Périod. No. 9. C. Bénard—L'esthétique contemporaine: La mimique dans le système des beaux arts. ["Mimetics," or the art of imitation by means of gesture, is not entitled to an independent place in the system of the fine arts, but is subordinate to all of them; having a relation of instrumentality to each in turn.] J.-M. Guardia—Philosophes espagnols: Gomez Pereira (i.). G. Tarde—Catégories logiques et institutions sociales (fin). [Imitation is "social memory". Society is (or tends to become) rather a "collective brain" than a collective organism; what corresponds to the rest of the organism being the cultivated territory of the society, its subjugated fauna and flora, &c.] Analyses, &c. Notices bibliographiques.

La Critique Philosophique (Nouv. Sér.).—An. v., No. 6. C. Renouvier—Victor Hugo. Le poète et le songeur (vi.). . . . G. Lechalas—A propos d'une page de M. Taine. [M. Taine, though he begins by repudiating all "dogmatism" in art, ends with a dogmatism of his own. Not only so, but, while professing to be a despiser of "the classical spirit," he anathematises, in landscape-painting, everything that is not classical.] . . . F. Pillon—Un nouveau manuel d'instruction civique (ii.). C. Renouvier—*Traité des principes de la connaissance humaine*, de Berkeley, traduit pour la première fois en français (i.). No. 7. C. Renouvier—Victor Hugo, &c. (vii.). Berkeley—*Traité des principes, &c.* (ii.). F. Pillon—La chose en soi dans la philosophie allemande. [Summarising a thesis of M. Louis Ducros, presented some years since at the Sorbonne, on the transformations of the "thing-in-itself" from Kant to Schopenhauer, the author points out incidentally that although both Fichte and Schopenhauer make will, in some sense, the thing-in-itself, Schopenhauer's theory is really the antipodes of Fichte's.] L. Ménard—Une question intéres-

sante. No. 8. C. Renouvier—Victor Hugo, &c. (viii.). [This series of articles keeps up its interest, both literary and philosophical. In the present three, M. Renouvier discusses the combination in Victor Hugo of "the optimism of the century," as regards the future, with a certain pessimism of his own, as regards life in the present. To illustrate the critical results arrived at, the concluding sentences of the first and third articles may be quoted: "En attendant, l'analyse de la *Fin de Satan* nous laisse dans la conviction renforcée que le grand poète de la France est un homme qui appartient par l'esprit au cycle des Sanchoniathon et des mythographes de la Grèce antique, beaucoup plus qu'à la race des Boileau, des Racine et des Voltaire dans laquelle le sort l'a fait naître". "Mais où trouver des auteurs sans défaut? Victor Hugo, ce grand écrivain, n'est pas un écrivain naturel."] C. Renouvier—Une question intéressante. E. Pécaut—Le cours d'histoire des religions au Collége de France. [On M. Albert Réville's work in the history of religions.] F. Pillon—Th. Ribot, *Psychologie de l'attention.* Berkeley—*Traité des principes, &c.* (iii.).

Rivista Italiana di Filosofia.—An. iv. 2, No. 1. F. Bertinaria—Il problema capitale della Scolastica. [An account of the Scholastic doctrines of the Universal—whether *ante rem, in re* or *post rem*—with an attempt at solution of the problem by the assignment of a true meaning to all three answers. Scholastic philosophy is maintained to be—contrary to the opinion embodied in a definition of Cousin—scientific in substance while religious in form.] V. Benini—Dell' integrazione artistica. [Art must select in view of an "integration" of its own, not merely copy nature.] L. M. Billia—Questione rosminiana: Sempre per la verità. Bibliografia, &c.

Rivista di Filosofia Scientifica.—Vol. viii., No. 5. G. Sergi—La coltura nella vita odierna. [Humanism having fulfilled its office, and science having now taken the leading place in modern civilisation, Latin and Greek ought to be banished from general education of all grades, and put in the same class with special studies such as Sanskrit and Hebrew.] E. Tanzi—Gli allucinati. [Hallucinations are of intellectual origin; abnormal excitations in the sense-organs or elsewhere being only a point of departure, which becomes assimilated to the subjective order of ideas. The proximate cause of hallucination is a spasm of the centres of sensation in the cerebral cortex.] N. Colajanni—Un sociologo ottimista: Icilio Vanni. Questioni del Giorno (F. S. de Dominicis—La chiesa cattolica e il Rosminianismo. Congressi internazionali di psicologia fisiologica e di antropologia e archeologia preistoriche.) Riv. Anal. Riv. Bib., &c. (J. Le Conte, *Evolution and its relation to Religious Thought, &c.*). Nos. 6, 7. B. Labanca—Il divino o l'umano nella Bibbia? D. Axenfeld —Intorno all' origine della nozione di spazio. [The primary fact that gave origin to the notion of space was the preservation of the body in a position of equilibrium by motions excited, on disturbance of equilibrium, by the weight of the osseous levers.] G. Marchesini—L'unità delle sensazioni e il senso tattile. [The tactile sense is the tree of which the other senses are the branches.] F. Gabotto—L'astrologia nel Quattrocento in rapporto colla civiltà: Osservazioni e documenti storici. Questioni del giorno (F. S. de Dominicis—Rosminianismo e positivismo). Riv. Anal. Riv. Bib., &c.

Zeitschrift für Philosophie, &c.—Bd. xcv., Heft 2. A. Meinong—Phantasie-Vorstellung und Phantasie. [A detailed exposition of a view of "phantasy" which is summed up in the definition of it as "capability of production of intuitive representations". The relations of this (new) production to the laws of association and to the position,

"Nihil est in intellectu quod non antea fuerit in sensu," are discussed at length; the principal result arrived at being that in any case "production," as distinguished from reproduction, of images of phantasy, must be maintained as a fact.] H. Siebeck—Die Anfänge der neueren Psychologie in der Scholastik (ii.). [Conclusion of the account of Duns Scotus.] A. Lasson—O. Pfleiderer's Religionsphilosophie. J. Mainzer—Erwiderung auf Prof. Dr. J. Witte's Artikel, "Die simultane Apprehension bei Kant". Recensionen, &c. (Lotze, *Outlines of Philosophy*, translated and edited by G. T. Ladd; Schopenhauer, *Two Essays*, translated). R. Eucken—August Krohn. Bd. xcvi., Heft 1. H. Vaihinger—Mitteilungen aus dem Kantischen Nachlasse. J. Volkelt—Das Denken als Hülfsvorstellungs-Thätigkeit und als Anpassungsvorgang (i.). [A criticism of some recent "positivistic" doctrines of the nature of thought; Shute's *Discourse on Truth* being taken as one example of modern "positivism".] L. Busse—Beiträge zur Entwicklungsgeschichte Spinozas (v.). J. Witte—Kleine logische und methodologische Beiträge zur Philosophie der Gegenwart. Recensionen.

Philosophische Monatshefte.—Bd. xxv., Heft 9, 10. A. Lasson—Vorbemerkungen zur Erkenntnisstheorie. [Theory of Knowlege is "presuppositionless," not as making no pre-suppositions, but as making none that it is not conscious of. Its essence, therefore, is to be "critical". Critical philosophy finds the criterion of thought in thought itself; necessity and universality being unattainable by mere observation and experiment. Certainty is in "self-controlled" thought, not in internal any more than in external perception. "Experience does not ratify thought, but thought ratifies experience." Beyond its own forms thought needs material in the shape of "facts"—themselves already in part the result of a thought-process. By these it has to direct itself, but not to subject itself to them.] A. Elsas—Kritische Betrachtungen über die Wahrscheinlichkeitsrechnung. Recensionen. Litteraturbericht, &c.

Zeitschrift für Völkerpsychologie u. Sprachwissenschaft.—Bd. xix., Heft 2, 3. F. Krejči—Das characteristische Merkmal der Volkspoesie. [The characteristic of "folk-poetry" as distinguished from artistic poetry is its dependence on the uncontrolled action of the "psychical mechanism". Folk-poetry appears at a lower level of culture, and disappears with the diffusion of culture. With culture goes logical control over the psychical mechanism. Absence of this control, therefore, may be taken *primâ facie* as characterising folk-poetry. This conclusion is confirmed by the more distinct manifestation of national characters in folk-poetry; culture tending to reduce these to uniformity. An effect of the unrestricted action of the psychical mechanism is the profusion of metaphors in epic narrative. This profusion, appearing originally in the folk-epic, is afterwards imitated in the artistic epic; but the essential difference remains that the metaphors of the artistic poet are deliberately chosen for their beauty, while those of the folk-poet are taken just as they are offered by the psychical mechanism. Particular modes of mechanical combination are characteristic of particular peoples; some manifesting themselves in the epical, others in the lyrical, folk-song. The unvarying character of these in each people and each special kind of effusion is a proof of their "mechanical" character, that is, of the absence of deliberate selection.] K. Schulz—Die Rede (ratio, λόγος). T. Achelis—Zur Würdigung G. T. Fechners. R. v. Sowa—Die Mundart der westfälischen Zigeuner. F. A. Mayer—Ein deutsches Schwerttanzspiel in Ungarn. M. Hoefler—Kalendarium

der oberbayerischen Kultzeiten. A. Hirzel—Gleichnisse und Metaphern im Rigveda. Beurteilungen.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE.—Bd. xiii., Heft 3. R. Wahle—Fragen, betreffend "Aehnlichkeit" und "Intensität". [Puts the questions whether sensations are to be regarded as consisting of different elements, such as independently varying qualitative elements, tone and "intensity," and whether "resemblance" as a relation of sensations is original. Several possible answers are stated and the difficulties of each pointed out.] F. Staudinger—Identität u. Apriori (Schluss). A. Marty—Ueber Sprachreflex, Nativismus und absichtliche Sprachbildung (v.). R. Henke—Bemerkung zu Richard Avenarius' *Kritik der reinen Erfahrung*. Anzeigen. Selbstanzeigen, &c.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE.—Bd. ii., Heft 4. P. Tannery—L'hypothèse géométrique du *Ménon* de Platon. O. Immisch—Zu Thales' Abkunft. [An additional argument against the supposed Phœnician descent of Thales (see *Archiv für Gesch. der Phil.*, ii. 2).] H. Siebeck—Zur Psychologie der Scholastik. [On Averroes as a psychologist, and on the impulse towards naturalistic pantheism given by the combination of his philosophical doctrines with empirical directions, already entered upon, in psychology.] W. Lutoslawski—Jordani Bruni Nolani Opera inedita, manu propria scripta. [A minute examination of the "Noroff MS.," entitled as above (now in the Rumianzow Museum in Moscow). According to the author's results, the MS. is not wholly Bruno's, but consists partly of matter transcribed for him.] G. Heymans—Einige Bemerkungen über die sogenannte empiristische Periode Kant's. [Kant's thought has no "empirical period" such as historians suppose when they thus describe the years from 1755 to 1770. What took place during this period was no revolutionary change—such as a passage from Rationalism to Empiricism and from this to Criticism would have been—but a progressive development. Kant's point of view during the sixties was that of a "formal, epistemological, realistic Rationalism". Intermediate between the points of view of Wolff and Hume, this appears from one side as Wolffian Rationalism, from the other as Empiricism.] W. Dilthey—Die Rostocker Kanthandschriften. Jahresbericht (H. Diels, E. Zeller). Neueste Erscheinungen.

PHILOSOPHISCHES JAHRBUCH.—Jahrgang ii., Heft 2. J. Costa-Rossetti—Die Staatslehre der christlichen Philosophie (ii.). [Contains a defence of "the doctrine of mediate divine right of sovereigns" (wherever the sovereignty in a State may be placed; the particular form of government being, directly, of human institution). This is maintained to be the true scholastic position, as opposed at once to the doctrine of the immediate divine right of kings and to the contract-theory.] G. Grupp—Die Anfangsentwickelung der geistigen Cultur des Menschen (iii.). [On the development of religion among primitive men; the author's previous article (i. 3), containing parts i. and ii. of the paper, having treated of the development of language and literature.] F. X. Pfeiffer—Zur Lehre vom ästhetischen Contraste mit specieller Rücksicht auf die landschaftlichen Contraste im Hochgebirge. [The æsthetic effect of contrast which man experiences in viewing mountain-scenery, since it is not experienced by animals, refutes Darwinism and Materialism. Bringing forcibly to mind the contrast between man and animals, it suggests the correlation of man and nature (of which animals form part), and so, by indicating the necessity of a principle standing above both terms of the correlation, furnishes an argument for Theism.] Recensionen und Referate. Zeitschriftenschau. Novitätenschau. Miscellen und Nachrichten.

VIII.—NOTES.

THE CONGRESS OF PHYSIOLOGICAL PSYCHOLOGY AT PARIS.

Professor William James of Harvard has kindly thrown off, at request, the following brief report of proceedings at the Paris Congress of Physiological Psychology, referred to in the last No. of MIND :—

"The first meeting was on Tuesday, Aug. 6, and morning and evening sessions were continued during the week. Five sub-sections were formed to discuss special subjects and bring them before the general sessions in the afternoon. One of these sub-sections debated the Muscular Sense; another, Heredity; another, Hypnotism; the fourth, a project for an international census of Hallucinations on lines proposed by the English Society for Psychical Research; whilst the fifth dealt with the subject of Abnormal Association of Sensations of one kind with those of another, M. Grüber of Jassy having reported a very extraordinary case of 'coloured hearing'. Finally, a supplementary committee reported a permanent plan of organisation.

"The attendance at the general meetings varied from about 120 to 60 or 70. A medical congress, devoted especially to Hypnotism, of which M. Bérillon was the moving spirit, seemed to form a powerful derivative in the last few days. M. Charcot, president of the Société de Psychologie physiologique, which had issued the invitations to the Congress, did not appear at all. Professor Ribot was present on the first day, and gave the opening address, on the *status* of contemporary psychology; showing in simple but impressive words how it advances by combining physiological and pathological observation and experiment with the older introspective method, and urging the investigators of all countries to share in the work now become common. Professor Charles Richet, the general secretary, was present at all the meetings, and his tact and good sense proved most useful at times in steering the devious course of discussion; his hospitality also will not easily be forgotten by the foreign visitors. MM. Gley and Marillier played an indispensable part in the proceedings.

"The committee of arrangements had prepared a program of subjects with a rather full printed syllabus of conclusions and suggestions. Of these subjects, several, for lack of time, failed to come to a full discussion. Such were (1) the part played by movements in the formation of mental images; (2) the appetites in idiots and imbeciles; (3) psychic poisons; (4) automatic writing and other unconscious movements; (5) the action of magnets on the organism. The subjects more thoroughly debated have been mentioned above. Largely under Mr. Galton's guidance, a circular of questions relative to Heredity was adopted by the Congress, and an international committee appointed to take charge of it. Similar action was taken upon the census of Hallucinations. The result of the discussions on Attention and the Muscular Sense was to show the need of a better understanding than we yet possess of the feeling of mental effort, the study of which was recommended as a *desideratum* to all psychologists. In the numerous questions relative to Hypnotism, great diversities of view came out, showing how much more work has still to be done in this field. The partisans of the Nancy School were decidedly in the majority at the meetings; and everyone seemed to think that the original Salpétrière doctrine of hypnotism, as a definite pathological condition with its three

stages and somatic causes, was a thing of the past. Dr. Bernheim even expressed doubt whether any such thing as hypnotism distinct from sleep and suggestion existed at all.

"The most striking feature of the discussions was, perhaps, their tendency to slope off to some one or other of those shady horizons with which the name of 'psychic research' is now associated. Amongst those who took a more active part in debate may be named MM. Marillier, Gley, Binet, Pierre Janet, Bertrand, Espinas, Bernheim, Liègeois, Ochorowicz, Danilewsky, Grote of Moscow, Delbœuf, Forel, Galton, Sidgwick, F. W. H. Myers. The open results were, however (as always happens at such gatherings), secondary in real importance to the latent ones—the friendships made, the intimacies deepened, and the encouragement and inspiration which came to everyone from seeing before them in flesh and blood so large a part of that little army of fellow-students, from whom and for whom all contemporary psychology exists. The indvidual worker feels much less isolated in the world after such an experience. The entire number of persons who gave their 'adhesion' to the Congress (the membership-fee being 10 francs) was not far from 400, the majority naturally French. From England the only persons present were Mr. Galton, Prof. and Mrs. Henry Sidgwick, Mr. F. W. H. Myers and Dr. A. T. Myers. The United States furnished Profs. James and Jastrow and Mr. Riley. Russia counted more 'adherents'. From the German Empire, though many eminent men sent in their names, Baron von Schrenck-Notzing and Drs. Münsterberg and Sperling were (I think) alone present. This is the more to be regretted, as the absent ones can now never realise how altogether gracious and hospitable a welcome they would have received. The Congress wound up on Saturday night with a feast of other things than reason and a flow of something besides soul on the platform of the Eiffel Tower, where, amongst other toasts, one was proposed by Prof. Lombroso to the health of Prof. Richet as the "*représentant de l'anti-chauvinisme dans la Science*". Reason and soul were there too, however; and hardly could finer subjects of contemplation for both of them have been found than the wonderfully illuminated landscape of exhibition grounds, palaces and fountains spread out below, with all the lights and shadows of nocturnal Paris framing it in.

"The Congress decided to institute a permanent organisation, under the name of the *International Congress of Experimental Psychology*. It voted that its next meeting should take place in England three years hence. A permanent Committee of Organisation was named, with members in the principal countries which had taken part; and a vote was passed expressing the hope that every member who was engaged in investigating a particular subject would put himself through this Committee into communication with psychologists similarly employed in other countries. The Committee is constituted as follows:—MM. Beaunis, Bernheim, Bertrand, Espinas, Ferrari, Gley, Marillier, Ribot, Richet (France, 9); Galton, F. W. H. Myers, Sidgwick (England, 3); Münsterberg, v. Schrenck-Notzing, Sperling (Germany, 3); Danilewski, Grote, Ochorowicz (Russia, 3); Forel, Herzen (Switzerland, 2); Benedikt (Austria); Delbœuf (Belgium); Neiglick (Finland); Lombroso (Italy); Grüber (Roumania); James (United States): in all, 26."

The Committee appointed at the Congress to prosecute the statistical study of Hallucinations consists of Profs. Sidgwick, James and Grote, Baron v. Schrenck-Notzing and M. Marillier. Prof. Sidgwick sends the following statement as to the work undertaken:—

"The statistical inquiry into what may be distinguished as the 'casual

hallucinations of sane persons' has two main objects. Its first object is to ascertain approximately what proportion of persons in England—or any other country—have had experiences of this kind. With this view, it is proposed to collect as many answers as possible, from persons over 21, to the following question: *Have you ever, when believing yourself to be completely awake, had a vivid impression of seeing, or being touched by, a living being or inanimate object, or of hearing a voice; which impression, so far as you could discover, was not due to any external physical cause?* To all who may answer this question in the affirmative a further set of questions will be sent, in the hope of obtaining details as to the experiences with a view to examining into their cause and meaning,—this being the second object of the inquiry.

"In the section of the International Congress of Experimental Psychology, formed for the consideration of this inquiry, the desire was expressed by several speakers that the work of collection should be as far as possible in the hands of experts; on the other hand it was urged, and generally admitted, that it would be practically impossible to obtain the quantity of answers required without accepting the aid of all intelligent persons willing to assist. I am accordingly conducting the inquiry in England on this comprehensive plan: at the same time, I attach a special value to the co-operation of psychologists. I should therefore be very glad if any reader of MIND who may be willing to take part in the investigation will communicate with me without delay. In answer to any such communication—addressed 'Professor Sidgwick, Cambridge'—I will at once send the necessary documents, and any further information that may be required.

"I ought perhaps to say that, while my own interest in this statistical inquiry is largely due to the fact that such study of these phenomena as I have hitherto been able to make has led me to the conclusion that some of them are to be explained by 'telepathy,' I am far from being desirous to confine the work of collection to persons willing to admit this explanation. .On the contrary, I should be particularly glad to have the co-operation of persons who do not admit it. I may mention that M. Marillier, who is conducting the inquiry in France, does not at present accept the 'telepathic' hypothesis."

THE ARISTOTELIAN SOCIETY FOR THE SYSTEMATIC STUDY OF PHILOSOPHY (22 Albemarle Street, W.). Proceedings since last record:—June 17, Symposium, "The Nature of Force," Professor A. Bain, Professor Wyndham Dunstan, and Dr. Johnstone Stoney, F.R.S. July 1, Business meeting. All the members of the Committee were re-elected. The first meeting of the eleventh session is fixed for Monday, Nov. 4, at 8 P.M., when the President (Mr. Shadworth H. Hodgson) will deliver an address on the question, "What is Logic?"

Mr. Thomas Case, author of *Physical Realism*, has been appointed to the vacant Waynflete chair of Moral Philosophy at Oxford.

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